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ICONES  
PLANTARUM INDIAE ORIENTALIS,

OR  
FIGURES OF INDIAN PLANTS.

BY  
ROBERT WIGHT, M. D., F. S., &c.

MEMBER OF THE IMP. ACAD. NATURÆ CURIOSORUM,

SURGEON OF THE MADRAS ESTABLISHMENT.

VOL. I.

MADRAS:  
PUBLISHED BY J. B. PHAROAH.  
FOR THE AUTHOR.

MDCCCXL.





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TO  
THE MEMORY  
OF  
WILLIAM ROXBURGH,  
CHIEF OF  
INDIAN BOTANISTS.





# PROSPECTUS.

PREPARING FOR PUBLICATION

IN MONTHLY NUMBERS OF TWENTY PLATES EACH, PRICE TWO RUPEES, PRINTED UNIFORM WITH THE  
ILLUSTRATIONS OF INDIAN BOTANY.

ICONES PLANTARUM INDIAE ORIENTALIS,

OR

FIGURES OF INDIAN PLANTS,

DESCRIBED IN THE AUTHOR'S

PRODROMUS FLORAE PENINSULAE INDIAE ORIENTALIS;

AND IN HIS

ILLUSTRATIONS OF INDIAN BOTANY.

NO. I, TO APPEAR IN JULY.

Almost before the 1st Number of my "Illustrations" had issued from the press, I had become sensible, that the number of plates, which the plan of that work admitted, was inadequate for the attainment of one of its principal objects, the full elucidation, namely, of the distinctive characters of the natural orders as explained in the descriptive portion of the work; much of which, in consequence, remains to many, almost a sealed book, from the examples I am obliged to quote in illustration of my meaning, being often unknown to the reader. To go no further than the accompanying number I may refer to the description of Capparideæ, where several examples are quoted in support of particular statements, such as *Cadaba*, *Gynandropsis*, *Polanesia*, &c., not one of which, though all most common plants, may be known to the majority of readers, and to such therefore can afford but little assistance towards acquiring a correct knowledge of the peculiarities they are intended to explain. This information I am desirous of communicating through the aid of additional figures. Again when treating of "Properties and Uses" of plants, many are mentioned as meriting attention on account of properties, they are known to possess, but of whose forms the name communicates no definite idea. Thus under *Dilleniaceæ*, both *Dillenia speciosa* and *Wormia Madagascariensis* are mentioned as desirable additions to the ornamental shrubbery, but whom, of the many persons who may have read these encomiums, who have never seen either the plants themselves, or a figure, can form a just conception of their fitness for the purpose indicated. Almost every order treated of, affords similar examples, and many of them most common plants. In conversation plants are often spoken of, as endowed with valuable properties, but about which we may remain as much in ignorance as before, however common the plant, if we happen not to know the name, and have no figure to consult on the occasion. To supply such a book of reference is another object of these figures. For want of figures Dr. Ainslie's *Materia Medica* of Hindoostan, to compile which cost him nearly 20 years of incessant application and research, remains to this day, little better than a monument of abortive labour, so few persons of the many in this country who consult it, possessing sufficient acquaintance with the plants named, to be able to recognise them even when laid before them, and fewer still, to go in search of them when wanted. Hence, of nearly 500 species of plants named in that work, as used for medicine, food, or in the arts, scarcely one-tenth are known to Europeans, and perhaps not more than a third to Natives generally, and of which non-Botanical readers have no other means of acquiring a knowledge, than through the oral communication of natives, whose acquaintance with the plants indicated, being entirely traditional, without any guide to direct them always to the same plant, is often, as likely to be wrong as right. This is no imaginary statement, it is one, the truth of which I have seen verified in a thousand instances. Another, and not the least important purpose of these figures therefore is, to give a value to that work, by making known through correct delineations, the plants meant by the Author, and at the same time, to establish the Native names, of at least so many of our indigenous plants, on a firm basis, by combining them with representations of the objects named. Such a work still remains an important desideratum to all classes of the community.

To attempt all this by the publication of Coloured Plates, would only tend to defeat my object, since the heavy cost, and great length of time required to colour each plate separately, after printing, by the hand would perhaps greatly abridge the usefulness of the work, as well by retarding its progress, as by limiting its circulation to the wealthier classes. My wish is to diffuse as quickly, and as extensively as possible, a knowledge of Indian Plants, by publishing as many as possible in the shortest period of time, and at the lowest charge. To attain these objects, the figures will be prepared in the style adopted in the accompanying



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specimens, two of which are copies of plates already published in the Illustrations, and the other two copied from copper plate engravings. The first were selected to admit of comparison with the originals, to enable those who contemplate supporting the work to judge, how far such figures are fitted to supply the place of coloured ones in communicating a knowledge of the plant represented. Still further to reduce cost, and increase the rapidity of publication, it is not my intention to give letter-press descriptions, but refer for these to my Prodrômus, by numbering the plates uniform with the running numbers of that work, except in cases where new plants, are introduced; and then their place in the arrangement will be indicated by a double number, and a description given, printed in such a form, as to admit of its being either pasted on the back of the plate, or kept separate. For such descriptions no additional charge will be made. By the adoption of this plan, these figures will form, so far as they go, a *Pictorial Index* to the Prodrômus, and to the new species described in my Illustrations of Indian Botany. Utility and an anxious desire of making known, as many Indian plants as possible, being my principal inducement for undertaking this work, I shall consider it open to the contributions of those who may feel desirous of assisting me by communicating good figures of interesting plants, (if accompanied by specimens to enable me to verify their correctness) all of which shall be duly acknowledged. Occasionally also, when unable to procure specimens from which to prepare original drawings, I shall consider myself at liberty to select from rare and costly works now little known and seldom met with in this country, figures of useful plants. Among the works alluded to, may be mentioned the magnificent ones of Rheede, Roxburgh, and Wallich, the latter of whom, has obligingly permitted me to select from his publications, whatever I may think useful for this one. The plants mentioned in Ainslie's *Materia Medica* will of course occupy a prominent place, first as more especially appertaining to the Economical Botany of the Peninsula (they will always be accompanied by his names) and secondly because I hold it to be a matter of primary importance, to make known, as many as possible of the plants referred to in a work so generally known and consulted as that is in India.

The grand object of this work may now be summed up in few words, viz. *to give to India*, (so far as the limited resources of a private individual will permit) *that which England has so long enjoyed*, in "*Smith's English Botany*," a *standard Botanical Book of reference*; by the publication of correct figures, of as many Indian Plants as I possibly can and in the shortest period of time.

The publication of 120 figures per annum is scarcely sufficient to meet my own wishes in that respect, but it is the utmost I can venture to promise at the outset. Should however adequate encouragement be extended to the work, I shall endeavour to increase its speed, by augmenting the number of plates to 15 or more, in each monthly number, but at the same rate of charge (10 per rupee) which is considerably below the English cost of plates of a similar description.

As a proof that others as well as myself have felt the want of such a work, and duly appreciate the advantages to be derived from it, I subjoin an anonymous letter, received while engaged in drawing up this Prospectus. The author has certainly misunderstood the object of the Illustrations which, as I stated in the Prospectus to that work, is simply to supply the Indian Botanical amateur with the means of acquiring a knowledge of the Principles of the natural method of Botanical classification, by presenting him with a series of diagrams of the organs from which the characters of the orders are taken, to enable him to compare them with the written characters. As however the views of the author are strictly in accordance with my own, in regard to the necessity that exists for this work, I gladly avail myself of their support on the present occasion.

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SIR,—Permit me as an admirer of your Illustrations of Indian Botany to suggest an alteration in its plan, which will I think be a decided improvement.

Your present design is I conceive much too limited, and the work, though useful as far as it goes, is not comprehensive enough to form a sound and standard work on Botany.

Your "Prodrômus" when completed, is intended I believe to form an entire dictionary, so to speak, of Indian Botany, comprehending *every* species of the vegetable kingdom, which has come under your observation, either in a state of nature or preserved in collections. Allow me then to suggest, that your Pictorial Illustrations should form a part of this work, that *every* species in the Prodrômus should be delineated in the other, and that instead of the long descriptions you have given, a simple reference should be made to the Prodrômus, *with the addition* of such remarks as you might think necessary.

You may probably object to my design on account of its magnitude, and of the length of time it would occupy. The former of these objections, is scarcely admissible when the work is so divided as to allow but a small part of the labor to press upon you at a time. The latter is answered by its extended usefulness.

You may urge that many purchase your Illustrations who are not in possession of your Prodrômus, but I believe you have only to tell them to buy it.

Should you think of considering my suggestion, you might begin to publish a series of intermediate numbers, numbered No. I. a.—I. b. and so on.

I cannot help thinking that your present plan is, too limited, and beg to subscribe myself.

Your admirer,  
X Y Z.

TO ROBERT WIGHT, Esq.  
Madras.

## PROSPECTUS.

*P. S. July 1838.*—The preceding exposition of the objects of this work must, I think, satisfy every reader of the necessity that exists for its publication, but many may differ in opinion as to the judiciousness of the course I am pursuing in its preparation. I allude principally, to the propriety of taking upon myself the labour of printing the greater portion of the plates while as yet so little conversant with practical Lithography, which is allowed, by all who have had any acquaintance with it, to be the most difficult, and in its results the most uncertain of the graphic arts, though the most simple in its principles. A few words in explanation of this apparent paradox may not be out of place here.

Lithography is essentially founded on chemical principles, or the attraction existing between the stone used (a soft close grained lime stone) and greasy substances on the one side, and the well known repulsion between oil and water on the other. A greasy line drawn on such a stone strongly adheres; the stone being then wetted, the line throws off the water, retaining its attraction for any fresh portion of grease that may be brought in contact with it. A roller charged with ink, having an oily substance for its base being now passed over the stone, a portion of the ink attached itself to the line, while the water prevents its equally adhering to and soiling the rest of the stone. The line thus charged being subjected to heavy pressure, parts with the ink, which adheres to the paper to which the impression is to be communicated.

Such then are the very simple principles of Lithography. The drawing may be communicated to the stone either directly by means of Lithographic chalk, a substance containing a quantity of tallow, &c. in its composition, or through the medium of a transfer drawing executed, on paper prepared for the purpose, with 'transfer' ink, also a greasy composition, which on being firmly pressed upon a dry stone, adheres and imparts the lines which are afterwards to be charged with printing ink. So far all is easy, and the principles so self-evident, that it seems wonderful the first quarter of the 19th century had nearly passed away before they were practically applied to the diffusion of knowledge.

The practice however of the art of printing from stone, is as difficult as the principles are simple, and subject to so many sources of failure, that it seems not less wonderful, such astonishing advances towards perfection should have been already made. The method pursued in the accompanying figures is that by transfer, or the communication of the drawing from paper, and being that with which I am best acquainted, I shall confine my remarks to it.

From a bad transfer it is almost, if not actually, impossible to take a good print. Much care is therefore requisite in this first operation. The transfer being completed and communicated to the stone, the whole may be destroyed in the first inking, before a single impression is taken off. This accident may happen in two ways, either the ink may be too firm and adhesive and take the lines off the stone altogether, or it may be too soft and run the adjoining fine lines into one large blotted one, technically called "smutt." Both of these accidents can, if confined to a small portion of the drawing be in some degree remedied, but never altogether corrected. In the course of printing, they are so liable to happen that it is rare for even the best printers to take off fifty consecutive impressions, without the occurrence of one or other of them in a greater or less degree. Hence the value of a well-proportioned printing ink, and still more, of one not liable to change its consistence from exposure to the air in the course of printing. This last is still a desideratum in Lithography; and until supplied we can never expect to have any considerable number of uniform impressions. Some will always be found darker and others paler, in proportion to the comparative softness or hardness of the ink, and the skill with which it has been applied. The importance of a good roller with which to ink the drawing may be imagined from the following simile of a Lithographer. "You may as soon expect to write well with a bad pen as to print delicately (in Lithography) with a bad roller." Unfortunately for the Lithographer no part of his apparatus is so difficult to make; add to these causes of failure, and many more not mentioned, the difficulty of making a fine dark and accurately proportioned ink in the first instance, its liability to change afterwards through the re-action of its component parts on each other, but especially during printing, and lastly, the great skill required in its application, only attainable by much practice, and we see sufficient reason to wonder at the perfection which has been attained by some printers, and ample cause for the frequent failures of others. Aware as I was, when I entered upon the printing of this work, of the difficulties with which I had to contend, it may be asked, why? unskilled as I was in the art, I embarked in such an undertaking. A variety of circumstances combined to induce me, to be informed of all of which could but little interest the reader; suffice therefore to say, that I knew, and felt, how much the work was wanted, I likewise knew that unless I undertook to supply it, no one else in this country possessed the same means of doing so, and lastly, I saw no prospect under the already existing heavy drain on my finances, of being able to raise the means of paying for the printing in any of our Lithographic printing offices: nor if I had, of having it better done, now that the little spare time of Mr. Winchester, the Company's Lithographer, certainly the best in Madras, is so fully occupied with the printing of the Illustrations that he has none to spare for other work. Add to these that the change from very active, to comparatively sedentary habits, was beginning to work its usual effects on my health, and that I found the exercise of printing a sufficient compensation for the more vigorous exercise I formerly took, and then—I think I have given very satisfactory reasons for making the attempt. I will not adduce the execution of this first number as affording a fair specimen of what the work will be: The adage says "practice makes perfect" many of the transfers were made by new hands and not nearly so good as I now get them—every day's work is tending to improve my "prentice hand" while the recent acquisition of a good roller has given greater certainty to my endeavours to acquire skill in its application.

A subject probably of greater importance to subscribers, is to be informed of the nature and extent of my resources for continuing the work. These I have much satisfaction in adding are most ample. I have already in hand several hundred drawings: Dr. Wallich, the indefatigable Superintendent of the Calcutta Botanic garden has most liberally undertaken to supply me with copies of the rich collection of drawings, appertaining to that establishment, left by the late Dr. Roxburgh: several Amateurs have besides kindly offered their assistance, promising to furnish me with additional materials, while I have a Draughtsman on my own establishment, con-



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stantly employed in encreasing my store, by making drawings of the most interesting materials, furnished by a large and richly stored herbareum.

It now only remains for me to indicate the plan of the work. My first thought was to publish it in monthly numbers of 10 plates each, on further consideration it occurred to me that numbers of 20 plates, but less frequent, would be a more judicious plan, as being so much more economical in postage to distant subscribers. The kindness of Dr. Wallich and other friends, having so largely augmented my means of proceeding with the work at a more rapid rate, has induced me to extend my original plan, by endeavouring to publish the larger numbers monthly, in place of every two months. With this view I am now in treaty with a well qualified Lithographer, and should I succeed in procuring his assistance, have little doubt of being able to accomplish my object. The plan now contemplated therefore, is to publish monthly, along with the Illustrations, the successive numbers of this work. The plates it will be observed are not numbered consecutively, this is for the convenience of systematic arrangement. The method which I adopt and would recommend to others, is to provide a port-folio, and arrange the plates in the order of their numbers, as they come out. By this contrivance every facility of reference will be enjoyed, that the present methodical distribution of the vegetable kingdom affords, and for more ready consultation, I would advise them to mark off each number on the margin of the Prodrômus, as it is figured. By this plan that work becomes an index to this. In those instances where plants not described in the Prodrômus are introduced, their place in the series will be indicated by a double number thus 0 X 0 which may be equally noted on the margin of the Prodrômus. The explanations of the plates will be printed on one side of the paper only, to allow of their being cut out and attached to the plate for ready reference. Those for this number will accompany the next.

## P R E F A C E.

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IN concluding the first Volume of this work it can scarcely be required of me, as happens to some authors, to prove that it is wanted or to point out in what respects it is calculated to supersede the labours of those who have gone before since in truth, so far as Indian Botany is concerned, no similar work exists with which to compare it. In its plan and execution it differs widely from those of Rheede and Rumphius, each of whom have given figures of a vast number of Indian plants, but these often so rudely and incorrectly delineated that to this day many of the plants represented are unknown and in scarcely a single instance are their analytical details, apart from general habit, such as to enable even the most accomplished Botanist to say from them to what natural order the plant belongs. The somewhat more modern works of the two Burmans and Plukenet are little if at all in advance of them, though all very useful in aiding the determination of the plant they meant in their now nearly unintelligible descriptions. Modern works are not liable to the charge of want of precision, but of these the list is scanty, those of Roxburgh, Wallich, and Royle, being the only ones expressly devoted to the elucidation of Indian plants. Those of the two first named Botanists, though works of great merit, are yet on so magnificent and expensive a scale as to limit their usefulness to the cabinet, besides which they are already nearly out of print. That of Dr. Royle though not liable, to the same extent, to these objections, is scarcely applicable to this portion of India, its illustrations being confined to the flora of the temperate regions of the Himalayas, the plants figured are almost all unknown in the warmer climate of the south; lastly, but a very small number of the plants figured in this work have been published in either of these three.

Since then, this publication does not interfere with any of its predecessors, it only remains for me to show that it is wanted here. This has been in part already done, in the prospectus which accompanied the first number to which I beg to refer. To what is there advanced I may now add, the great advantage of pictures in conveying to the mind's eye a quicker perception than words can do, of the distinctive peculiarities of an unknown plant. In descriptions, besides, when not drawn up by a professed Botanist, a laxity of terms is generally introduced, accompanied with such a want of analytical information that no one, whether a Botanist or not, can possibly make out what is meant, for in truth they convey no precise or definite idea. When we turn to the often elaborate descriptions of the older Botanists we find them utterly valueless in enabling us to picture to the imagination the plant they are describing. If we take, for example, those of Rheede, we find them, apart from his plates, nearly incomprehensible, but assisted by them, making allowance for embellishments and even occasionally for a jumble of two or three things into one, (as the drawings were not made by a Botanist) we are enabled, with the aid of specimens, to recognize most of his plants. This single fact shews the great value of even bad plates towards the advancement of Natural history, and to Botany where the number of objects of study is so great, they are, even in the present advanced state of the science, quite indispensable, especially to the young Botanist. In the preface to my illustrations I have shown, I hope satisfactorily, the great advantages derived from the natural method of studying plants, adverted to the almost universal adoption of this system by scientific Botanists, and mentioned that an intimate acquaintance with a few species only of an order, will often enable even a young Botanist rapidly to acquire a competent know-



ledge of the rest. Plates giving a good representation of the general aspect of a group may often be found to supply this knowledge and in India, where large general herbarea (for the whole world) do not exist, and little progress in the study of natural affinities has been made, are therefore nearly indispensable to the student of this system of Botany, since by seeing several species of an order arranged together and put in contrast with those of some other order, he may acquire such an idea of the appearance of a group, although he may not be able to explain it to others, as will make a strong impression on himself and prove eminently useful in advancing his own researches and in preparing his mind for entering on the more abstract and sublime parts of the study.

According to these views, the correctness of which can scarcely, I presume, be questioned, it must be evident to every one, at all conversant with the subject, that this work, however humble in execution, is far otherwise in design and promises, if sufficient support is given to admit of its extension to three or four such volumes as the one now offered to the public, to prove one of the most useful yet published on Indian Botany, by enabling all those desirous of acquiring a knowledge of the plants of this country, to familiarize themselves with appearance of groups of indigenous plants, by furnishing correct figures of numerous species of each, in a form so compact and at a cost so moderate that none can complain either of its bulk, and consequent unfitness for ready reference, nor of the heavy charge to which he must submit in possessing himself of a copy, 10 rupees being but a small charge for 100 elaborately executed quarto plates, especially in this country, where the material for getting up such a work is so very expensive. I am well aware of the imperfections in the printing of some of the plates, especially of those of the earlier numbers, a defect happily diminishing in each successive issue. But when it is considered, that Lithography is yet comparatively in its infancy, even in Europe and decidedly so in this country, that success or failure often depends on atmospheric changes not cognizable by the senses, that this climate during a considerable part of the year is most unfavourable and that at the commencement of the work, the experience which has been gradually acquired in its progress and which enables us in a great degree to counteract these obstacles, was altogether wanting, few objections will I think be urged on that head. When in addition I state that these two works were the first of the kind ever undertaken in Madras, that I had personally to superintend every thing, to supply from my private resources the stimulus to exertion on the part of those employed in a new and untried occupation, that my own knowledge of drawing and Lithography was slight, and lastly, that I had to encounter all these difficulties while attending to my own avocations, I trust ample reason will have been urged, in extenuation of even greater imperfections than either of them present, the more so when I add, that the obstacles to be overcome were such as no one, but myself, can form an adequate conception of.

To compare this work, commenced and prosecuted under such adverse circumstances, uncheered by public approbation, and so slenderly supported that hitherto it has been conducted at a very considerable loss, with the luxurious and costly Lithographic botanical works of Europe would indeed be doing it an injustice, but few I believe will be found ungenerous enough to try it by such a standard.

Our knowledge of the India Flora though extensive is far from being widely disseminated and has been obtained through the indefatigable industry of but a small number of enthusiastic votaries of science. This paucity of labourers, in a country affording so rich and interesting a harvest, is, I believe, solely attributable to the want of local Floras and the consequent difficulties with which the study of Indian Botany has been beset. To obviate

this impediment to future success and promote a more extended cultivation of this not less delightful pursuit than useful science, is the grand object I have had in view in the publication of this and the other botanical works on which I am engaged. That they will produce this effect I have scarcely a doubt and in this hope alone, this work will be continued through at least another volume, though hitherto, the support it has received has been so little commensurate with the labour and cost that, but for this expectation, it would have ended with this volume. But impressed as I am with the conviction that it will yet fulfil the object of its publication I have resolved *deo volente* to carry it through a second volume of equal extent: a resolution in which I am strengthened, not less by the daily increasing interest which every thing connected with India is acquiring and by the anxiety expressed by both the European and local governments, to obtain correct information regarding the products and resources of this rich, but until lately, much neglected division of the British empire than by the enlarging list of subscribers. Should my anticipations of success be justified by the result a third volume may possibly be added raising, the number of species figured to 1000, after which, it must, I imagine, either drop altogether or be resigned into other hands. The latter would of the two, in my opinion, be the preferable alternative, as it could not but be a source of regret, after forming the machinery for carrying it on, that it should so soon cease to work, while there remains so much to be done. The flora of India, calculated at a very low rate, exceeds 10,000 species, excellent figures of about 2000 of which were left by Roxburgh. Most of these are still unpublished, but are now, by the public spirit and liberality of Dr. Wallich in course of publication here. To allow two-thirds of that noble collection to remain unknown, through want of present support to this work, and the knowledge of the indefatigable labours of that excellent man be longer left in obscurity, while the means of bringing them to light are not only at hand but actually working, would indeed be a source of deep regret to future Botanists, but which, I fear, can only be avoided by the living Botanists of the present time extending a more liberal patronage to this publication, which, exclusive of the Government aid, has not paid for paper on which a small impression is printed, and holds out no inducement to any one to embark in such an unprofitable concern.

One other advantage to which this work may lay claim over most other works of a similar description, consists in the rapidity of publication. Smith's English Botany, which extended to 2592 plates, was 24 years in publishing: at the rate of publication which this work has attained it would in that time extend to upwards of 5000 species, but supposing only half that number published, the work will form, beyond all comparison, the most valuable book of reference for Indian Botany ever published or likely to be even attempted for yet many years. With these few remarks I conclude this brief preface and leave the work to speak for itself and most cordially hope it may not speak in vain, but trust it will yet become one of as constant reference as the eminently praiseworthy and, for the time they were undertaken and executed, meritorious labours of the excellent Van Rhee and prove to Indian Botanists, so far as it may extend, what Smith's English Botany has long been to British ones a work of unexceptionable authority.





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# EXPLANATION OF PLATES.

$\frac{1}{35}$  Guatteria longifolia. Wall.—1. Flowering branch—*natural size*—2-3. Back and front views of a stamen—4. Ovary cut vertically, ovule, solitary—*magnified*.

$\frac{2}{73}$  Polanisia icosandra—*natural size*—2. A dissected flower, the stamens removed showing the forms and relative size of the sepals, petals, style and stigma—3. The same, the petals removed to show the stamens—4. An anther after having shed its pollen—5. Ovary, style and stigma—6. Mature fruit after dehiscence, showing the mode of attachment of the seed—7. A portion of the placenta and attached seed—*magnified*—8. A seed cut vertically—*all more or less magnified*.

$\frac{3}{160}$  Mollugo disticha—*natural size*—2. Sepals—3. The same opened, showing the insertion of the stamens—4. A capsule burst—5. A portion of the placenta removed, to show the mode of attachment of the seeds—6. A seed—7. The same cut longitudinally, showing the embryo rolled round the mealy albumen—*all magnified*.

$\frac{4}{171}$  Lebretonia procumbens—2. Calyx, involucre, ovary, style and stigmas—3. Staminal tube formed by the union of the filaments—4. An anther—5. Capsule—6. The same cut transversely—*all more or less magnified*.

$\frac{5}{176}$  Hibiscus lampas—*natural size*—2. Staminal column—3. Calyx, involucre, ovary, style and stigma—4. A petal removed—5. Anthers and pollen—6. Fruit cut vertically—7. The same cut transversely—8. A seed cut transversely—*all more or less magnified*.

$\frac{6}{178}$  Hibiscus lunarifolius—2. Ovary, stamens and stigmas—*natural size*—3. Staminal tube, adhering to the bottom of the corolla, split up—4. An anther—5. Style, and stigmas—6. A young fruit surrounded by its involucre and calyx—7. The same split vertically in the line of the valves—8. The same cut transversely, showing its five cells, and the arrangement of the seed in them—9. A portion of a leaf magnified, to show the stilate pubescence so common in the order—*all more or less magnified*.

$\frac{7}{189}$  Paritium tiliaceum—2. Calyx, ovary, style, stigma, and staminal tube—3. An anther—4. Ovary cut vertically—5. Capsule full grown and splitting—6. Capsule cut transversely—7. A carpel separated, showing the introflexed margin of the valves which give the 10-celled appearance to the fruit—8. A seed—9. The same cut lengthwise—10. The embryo removed its crumpled foliaceous cotyledons spread out to show their form—*all more or less magnified*.

$\frac{8}{197}$  Thespesia populnea—*natural size*—2. Calyx, staminal tube, ovary and stigma, with one petal left to show the relative size of the parts—*natural size*—3. Staminal tube removed and split open—4. An anther—5. Ovary, style and stigma—6. Ovary cut vertically—7. Stigma—8. A young capsule cut transversely—9. Portion of a placenta, with two young seeds attached—*all magnified*.

$\frac{9, 10, 11}{198}$  These three plates represent what I consider three varieties of our Indian cotton, but which Roxburgh and others esteem distinct species, viz.—9 Gossypium obtusifolium Roxburgh, with the usual dissections, 10 Gossypium arboreum and 11 G. herbaceum. The two last are copied from Royle's Illustrations.

$\frac{12}{205}$  Abutilon indicum—*natural size*—2. Staminal tube adhering to the base of the petals—3. An anther shedding its pollen—4. The same before opening—5. Calyx, ovary, style and stigmas—6. A capsule divided vertically, showing the position of the seeds—7. A seed—8. The same cut longitudinally, showing the position of the embryo and radicle—9. Embryo removed and slightly opened—*all more or less magnified*.

$\frac{13}{334}$  Bergera Koinigii—*natural size*—2. A flower partially dissected, showing the calyx, corolla, stamens and stigma—3. Ovary cut vertically, showing the pendulous ovules—4. The same cut transversely, showing the two cells—5. A cluster of fruit—*natural size*—6. A fruit cut transversely—7. A portion of a leaf magnified, to show the position of the pellucid dots—*all magnified*.

$\frac{14}{339}$  Clausena Willdenowii—2. A flower, the front sepal removed to show the attachment of the petals—3. The same, the petals removed showing the stamens, style and stigma—4. All the stamens but one removed, showing the ovary, style, stigma, and depression on the filament—5. Ovary cut vertically, showing the ovules—6. The same cut transversely—7. A fruit cut transversely, showing that all the ovules but one have aborted—8. A seed—9 and 10. Back and front views of the seed lobes, with the embryo at the base—*all more or less magnified*.

$\frac{15}{341}$  Feronia elephantum—*natural size*—2. A dissected flower, showing the ovary and the filaments all apparently united into a tube by dense tufts of hair at the base—3. Back and front views of detached anthers, showing the tufts of hair on the filaments—4. Style, stigma and ovary, cut vertically—5. Ovary cut transversely—6. Full grown fruit cut transversely—*all magnified*.

$\frac{16}{343}$  Ægle marmelos—*natural size*—2. A flower, the petals removed to show the stamens and stigma—3. The calyx thrown back to show the torus, insertions of the stamens, the ovary and stigma: the upper figure, a detached petal—4. A transverse section of the fruit—5. A seed—6. The same cut transversely—*all more or less magnified*.

$\frac{17}{396}$  Azadirachta indica—*natural size*—2. The staminal tube removed and opened—3. Ovary, style and stigma, with one petal left to show its form—4. Ovary cut vertically, showing its pendulous ovules—5. Ovary cut transversely—6. A cluster of fruit—7. A fruit cut transversely—*all more or less magnified*.

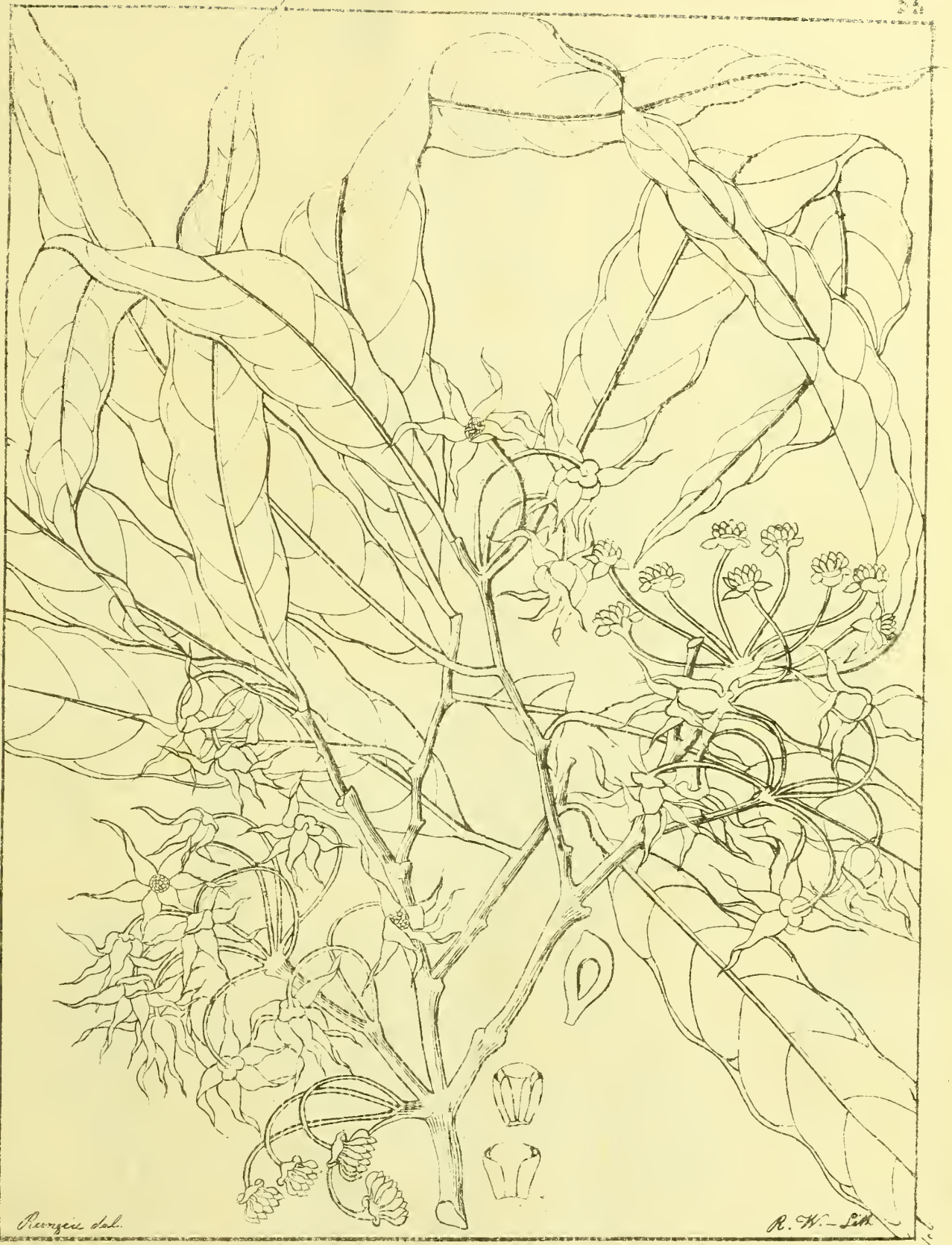
$\frac{18}{467}$  Oxalis corniculata—*natural size*—2. A flower opened lengthwise, to show its different parts—3. The ovary cut vertically—4. The same cut transversely, showing its 3 cells—5. A seed detached—*all more or less magnified*.

$\frac{19}{467}$  Berchemia parviflora—*natural size*—2. A dissected flower, showing the ovary sepals, minute scale-like petals opposite the stamens and somewhat embracing the anthers—3 and 4. Ovary and stigma, the former cut transversely and vertically—5 and 6. Full grown fruit cut transversely, showing that they may be either 2 or 3-celled, with one seed in each cell—*all magnified*.

$\frac{20}{723}$  Cicer arietinum—2. A dissected flower showing all its parts—3. An anther—4. The ovary cut lengthwise—5. A Legume—6. The same opened—7 &c, the different parts of a dissected seed—*magnified*.

# Anemone

3. 67



*Reynolds del.*

*R. W. - Lth*

*Uva-urou S*  
*Asog H.*

*Guatteria longifolia* Wall.  
*Uvaria longifolia* Roeb.

*Asokum*  
*Neltingum*

*Coronand*







*Rungia* del  
 1844. 1845. 1846.  
*Nahianaylic*. Lam.  
*Hooker varicell*. Sol.

*Planisia icosandra* (N. & A.)  
*Alome viscosu*. L. Hist. Nat. Med.

*R. H. Pitt.*  
*Halaba*. Cing.  
*aria-veela*. M.  
*Korka-raivinta*. S.







Frangia del

*Mollugo disticha* (Ser.)

L. H. B.







Rengia del

Dr. G. G. G.  
Litta Noottie

*Lebretonia procumbens* (Wight)





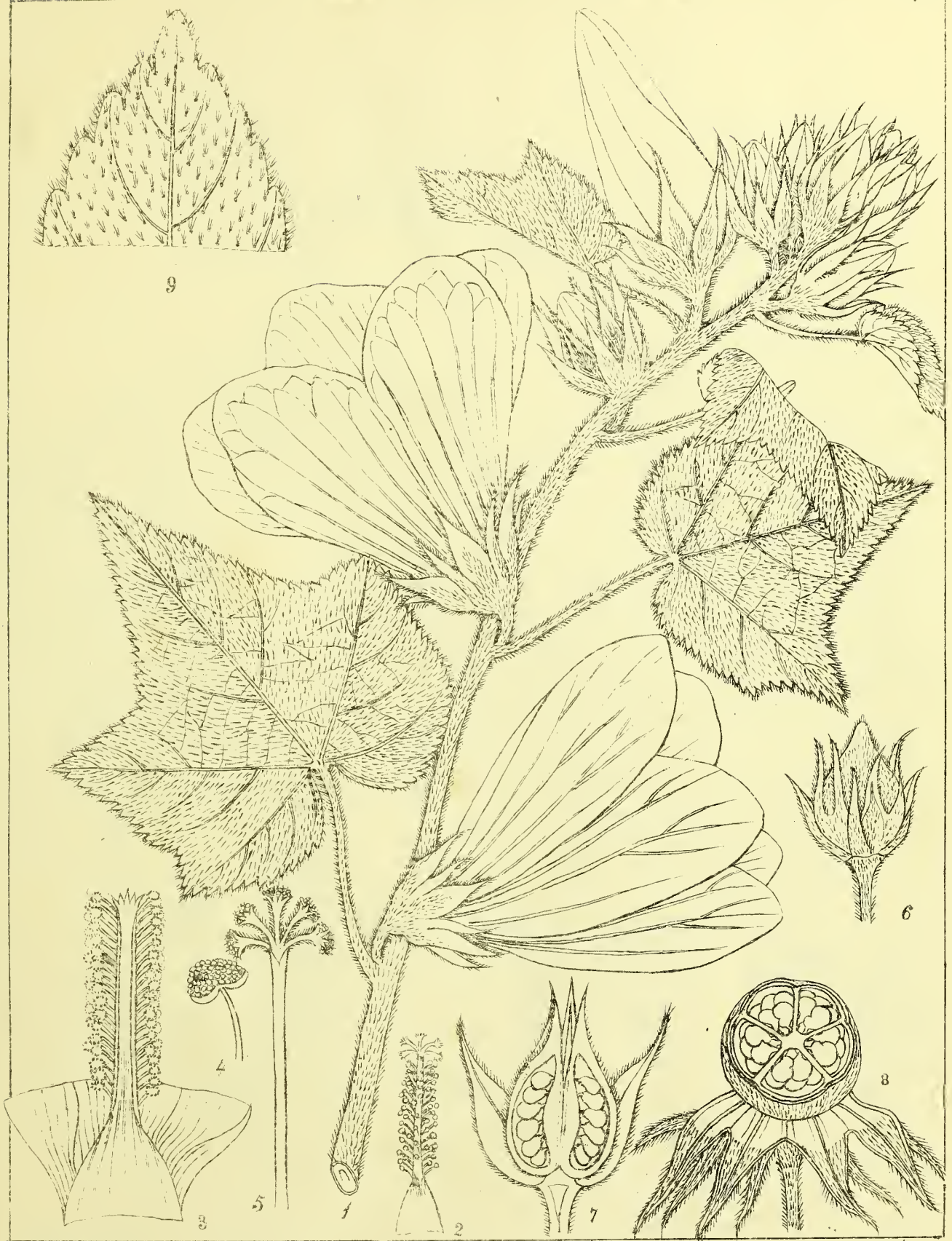


Rungia del.

*Hibiscus Larnpas* (Cav.)

B. W. - Lith.



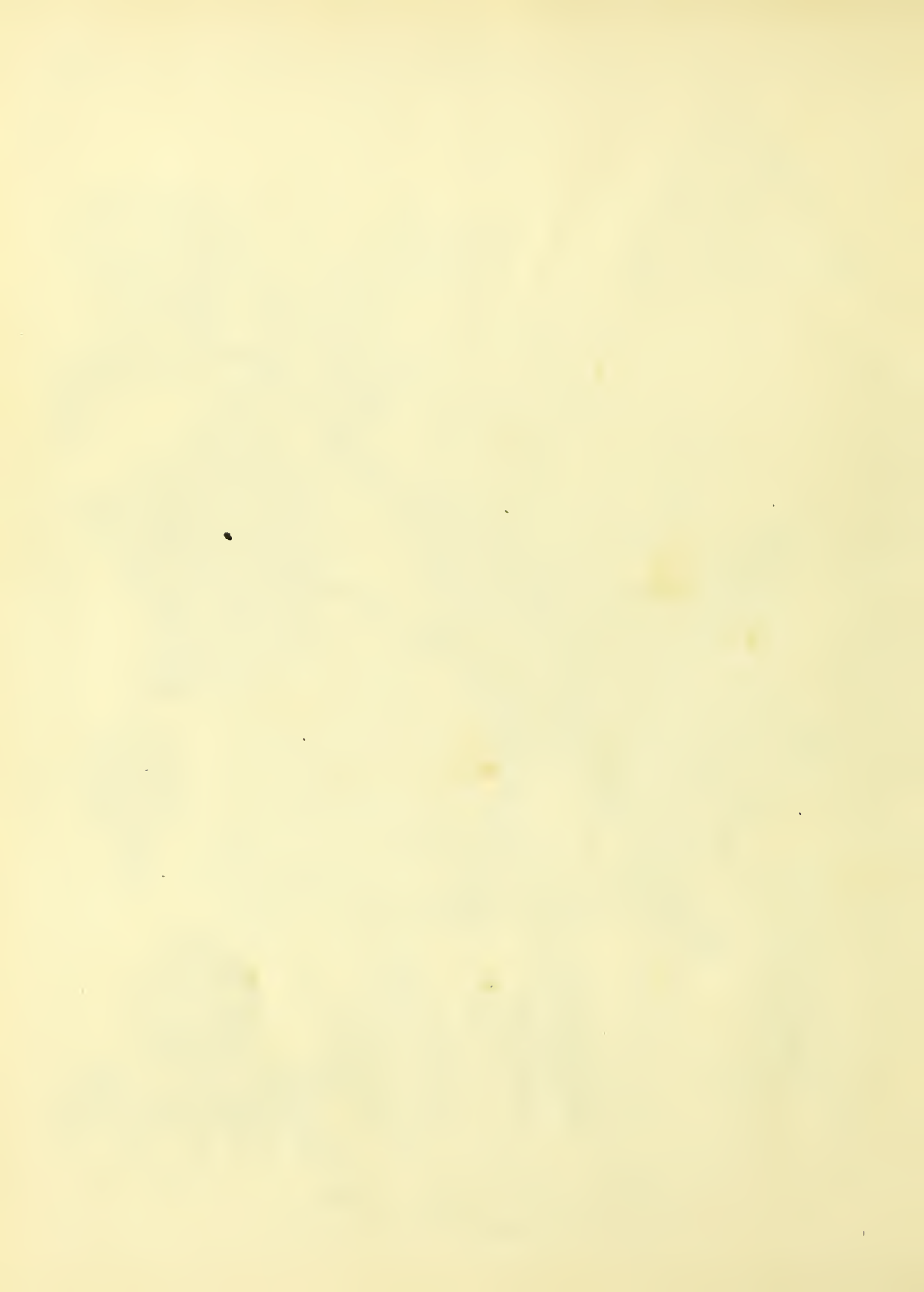


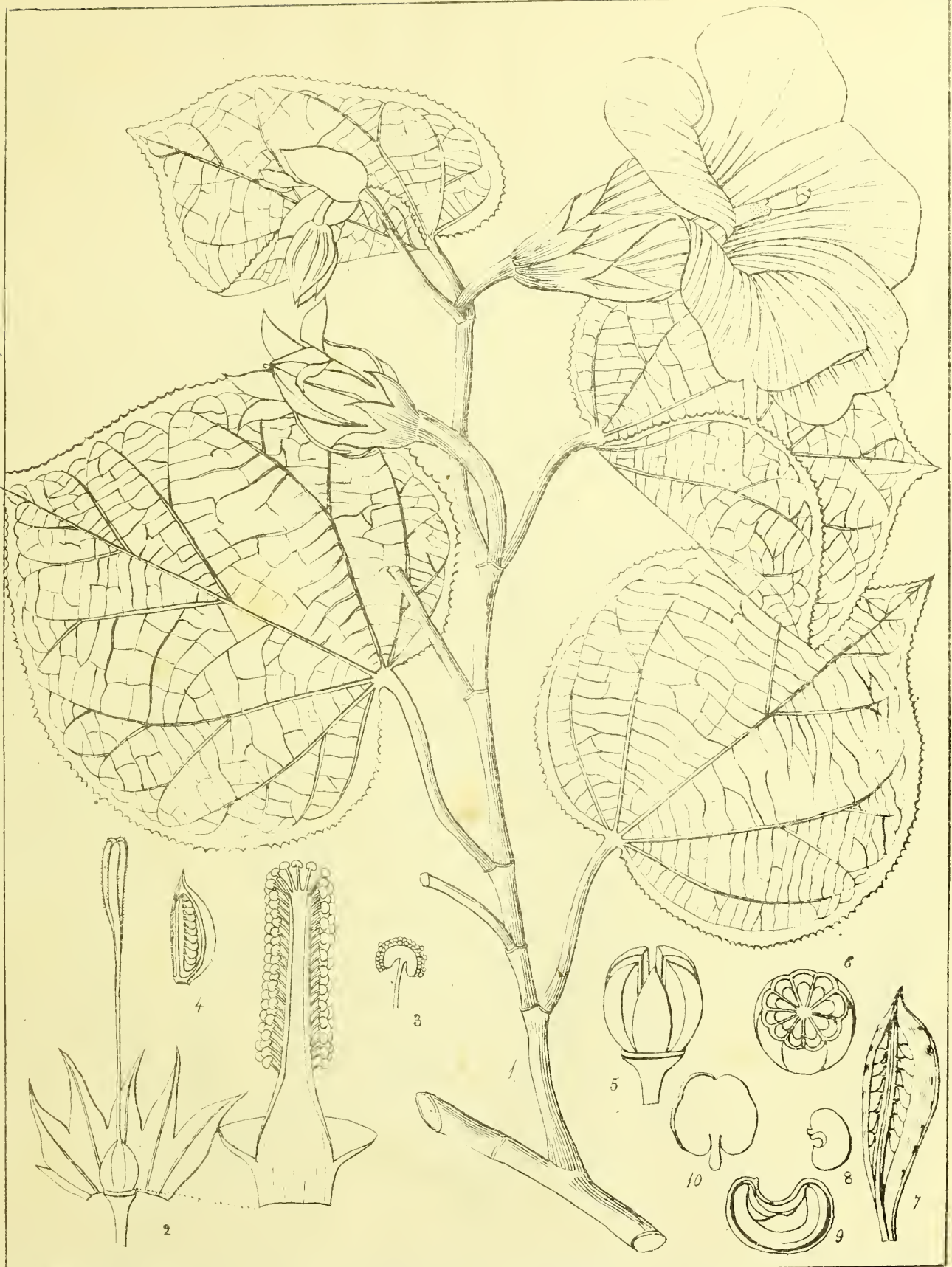
Frangula 1866

B. W. Little.

*Hibiscus lunarifolius* Willd.:  
*H. pruriens* Roeb. Fl. Ind. 3 p. 196.







Rungia del

*Paritium tiliaceum* (St. Hil.)

R. W. L. L.







*Rungia del.*

1/2 1/2 1/2 1/2 1/2 1/2 1/2 1/2

*Pourouma murum.* Lam.

*Gnaphalium murum.* Del.

*Hibiscus populnea* (Corr.)

*Hibiscus populneus* Linn.

R. H. Pitt

*Soparokavaka.* s

*Soniga. gaha.* Cyp.





Rangin del

A. W. Pitt

गुग्गुलु. इ. इ.  
 Guiparalis. Lam.  
 Gossypium. L.

*Gossypium herbaceum* Linn:  
*G. album* Lam: W & A. Arn:

गुग्गुलु. इ. इ.  
 Guiparalis. Lam.  
 Gossypium. L.







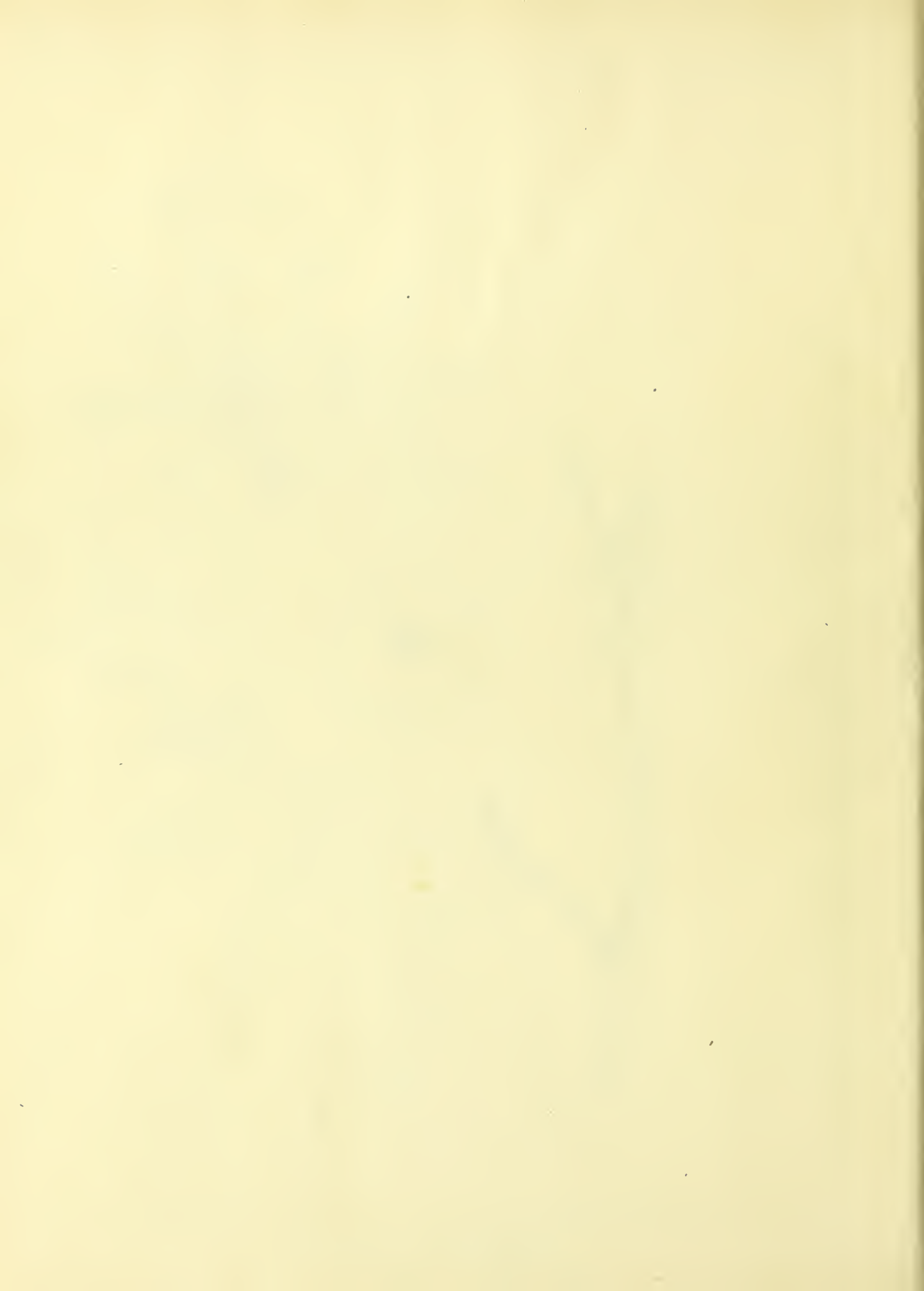
*Gossypium arboreum*  
from Royle's Illustrations 829

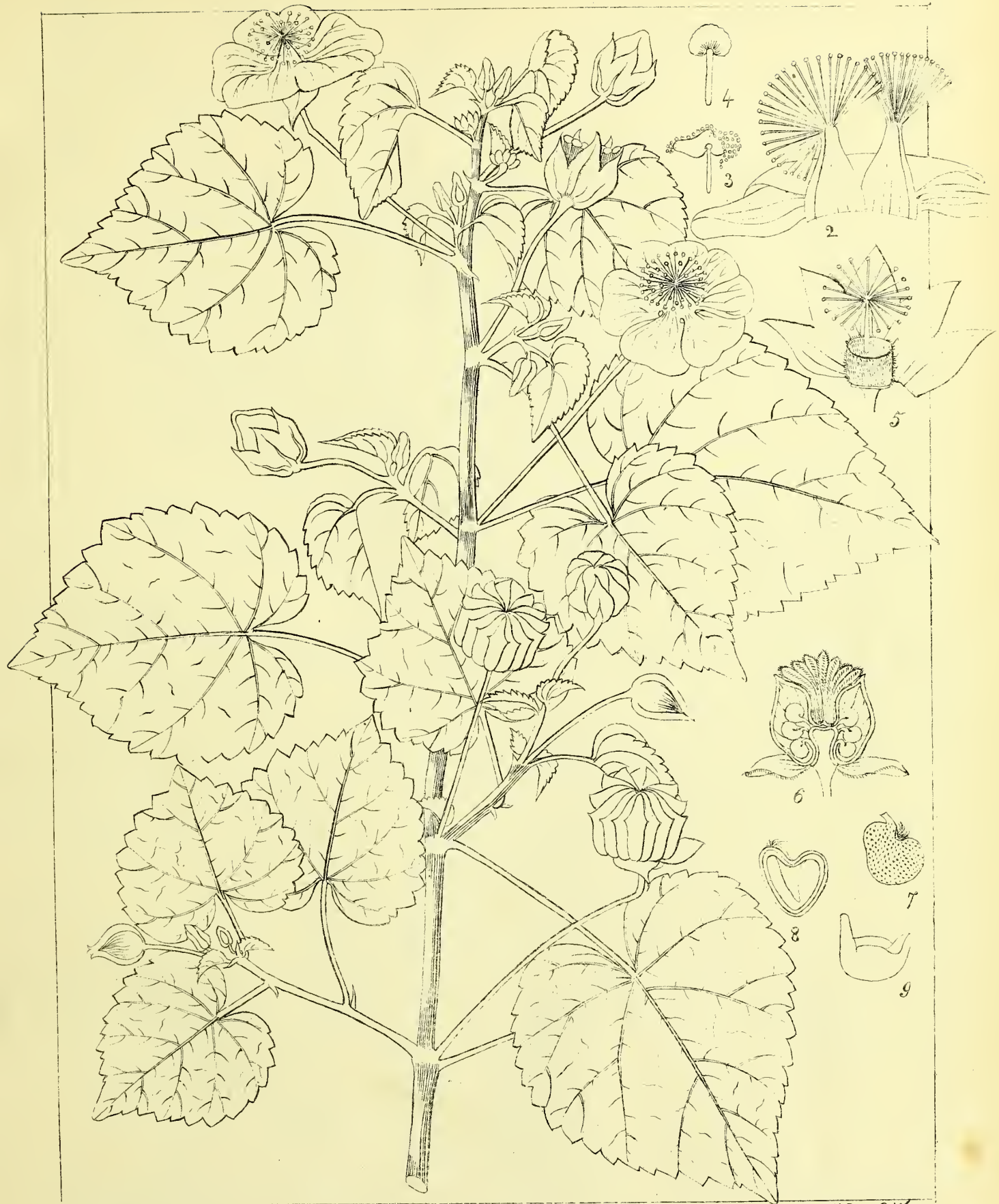






*Gossypium herbaceum*  
From Royle's Illustrations





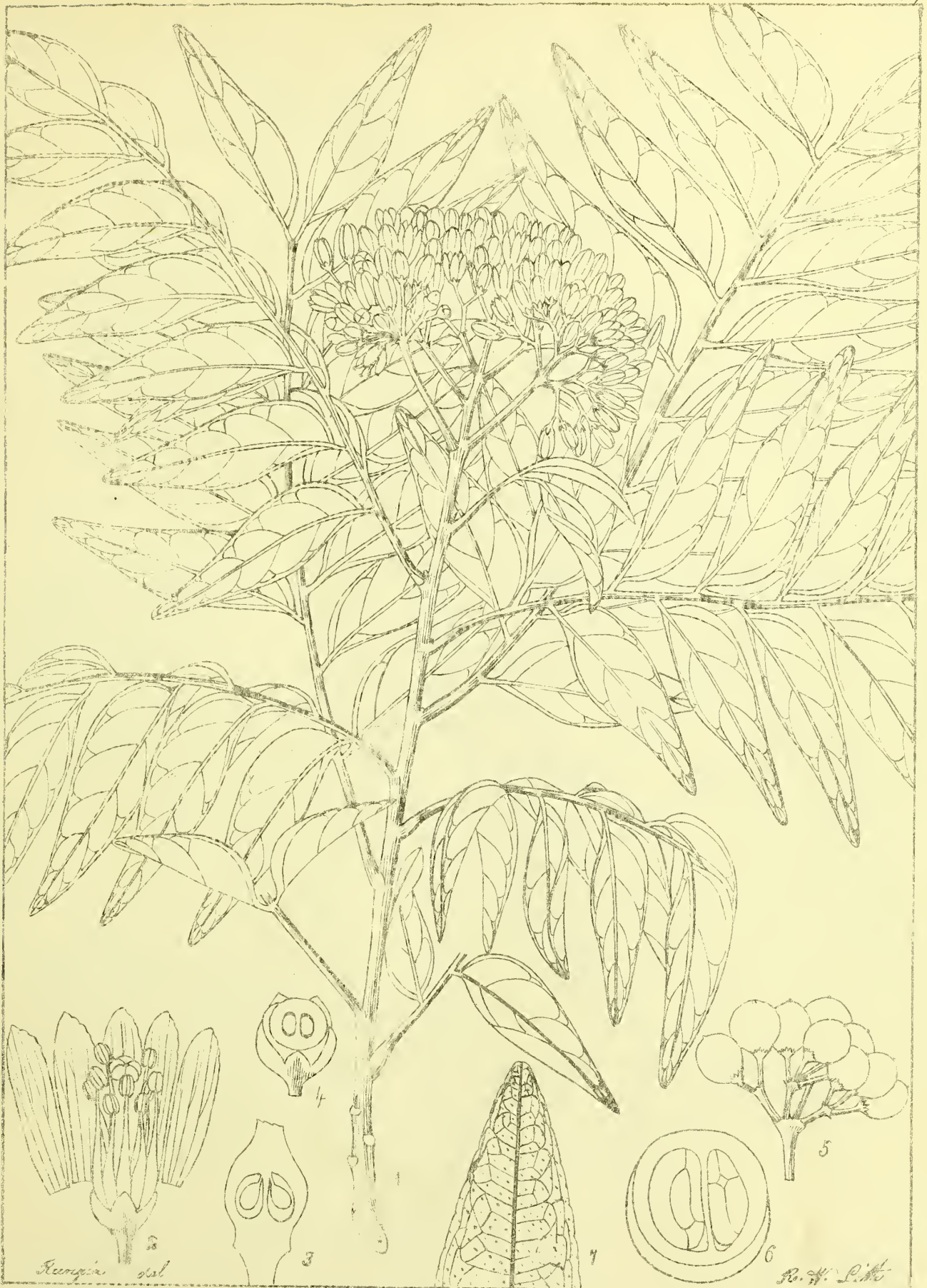
*Abutilon del.*  
 51-5-5 611 0-00  
*Toottie elleg. Lam*

*Abutilon indicum* (L. Don.)  
*Sida indica. S. populifolia Lam.;*  
 Country Mallow leaf.

*R. W. Little*  
 5 2 2 0 0.  
*Toottie-akoo. Sel.*







*Bergera* 1851

R. H. Pitt

*Christma-nimbos* . . .  
 63 11 151 1850.  
*Karaway-felley*. Lam.

*Bergera Koenigii* (Linn.)

*Karawanga*. H.  
 183 11 151.  
*Keari-magapokor*. Li.

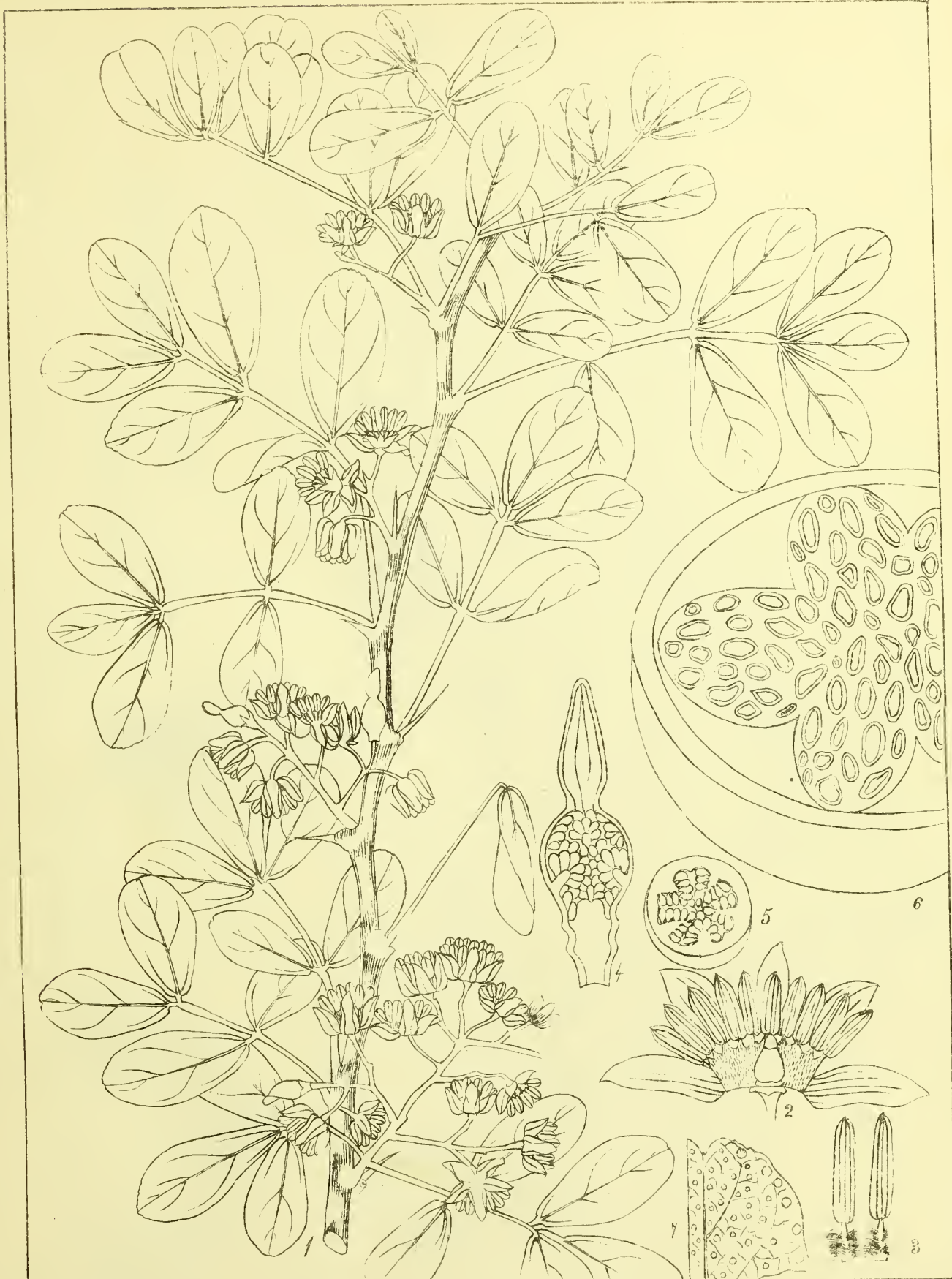






*Clausena Hillebrandii* (H. & A.)





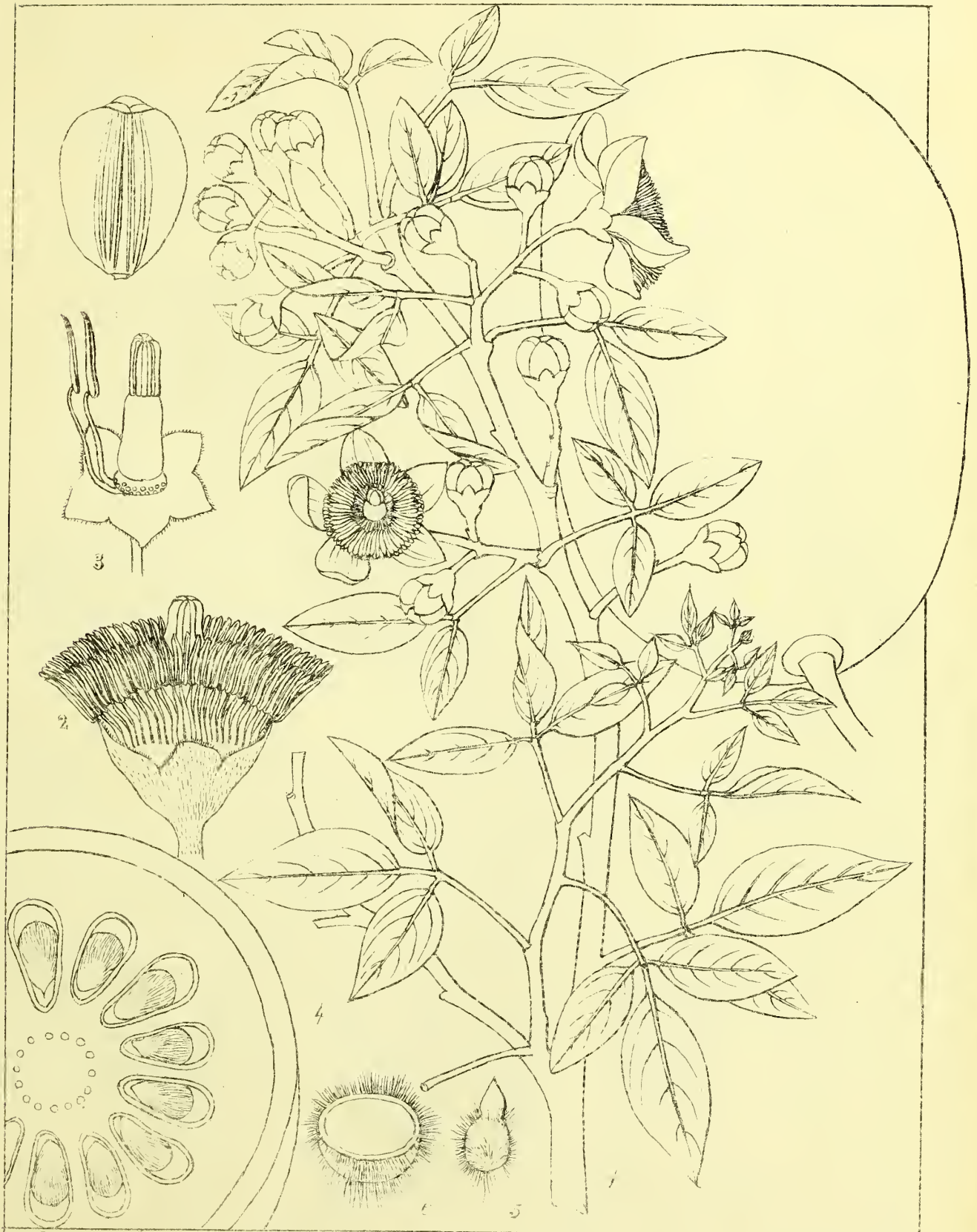
*Rungia del*  
*P. del 17 10 10 10*  
*Vallam. marem. I*  
*Cattivella. Tam.*

*Zironia elephantum* Corr.:  
 Hood apple tree

*Pe. H. - Leth.*  
*708 200*  
*Velaga chetles L.*  
*Kosim Kavila. H.*







*Rangia* det.  
*asotus* det.  
*Viburnum* det.  
*Bischofia* det.

*Citrus marmelos* Corr. Reab.  
*Crataeva marmelos* Willd.  
*C. religiosa* Cinslie Mat. Med. not Publ.

*R. H. B. B. B.*  
*asotus* det.  
*Viburnum* det.  
*Bischofia* det.





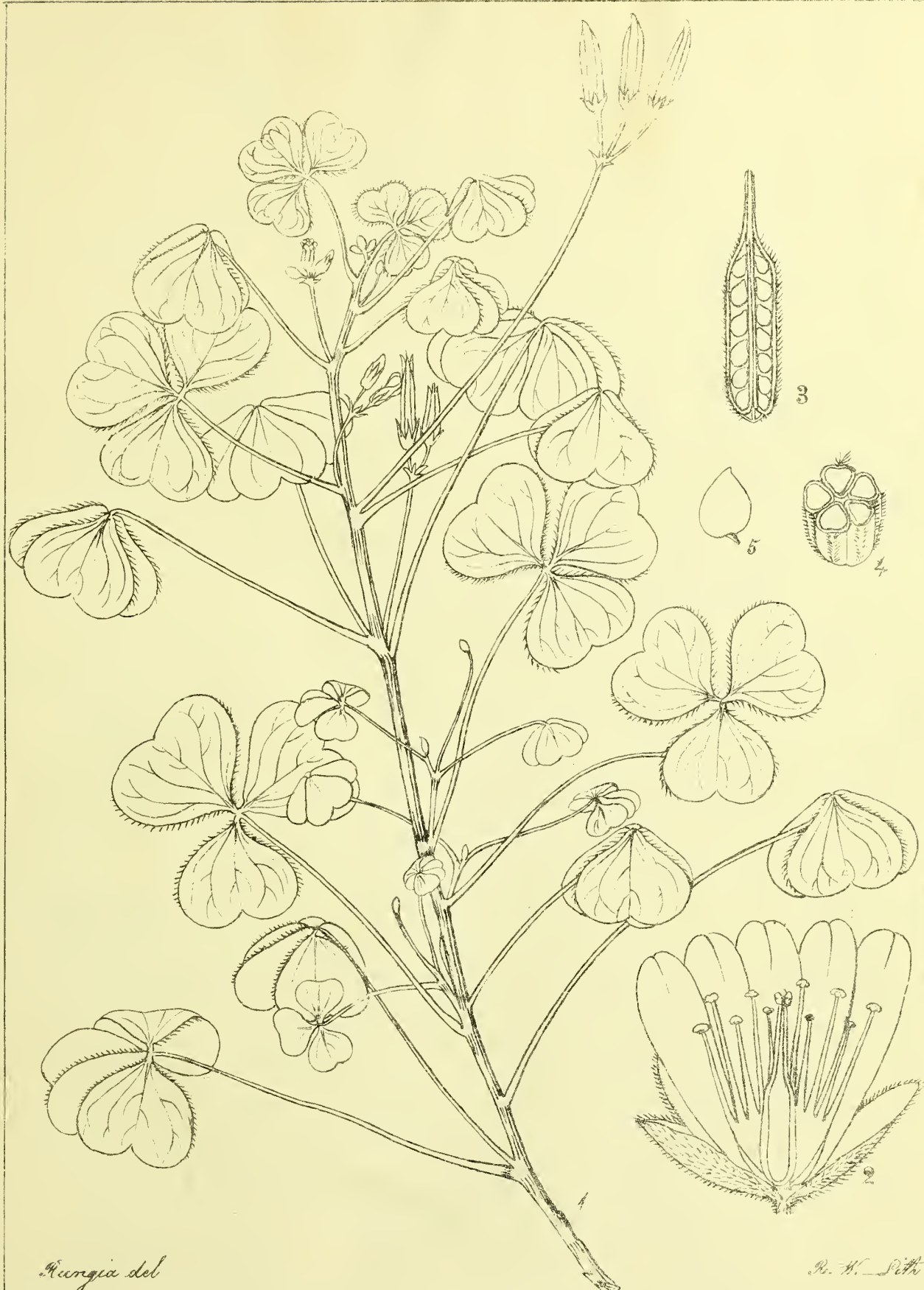
*Rungia* del  
Goss. & L. 1825 to  
*Kayman* Marum. Lam.  
*Kayman* Marum. Sol.

*Azadirachta indica* (Ad. de Juss.)  
*Melia azadirachta* Linn.;

S. H. L. H.  
Sol. Achomba. Cypre  
Nimba  
Vicia - Cypre. M.







Hangia del

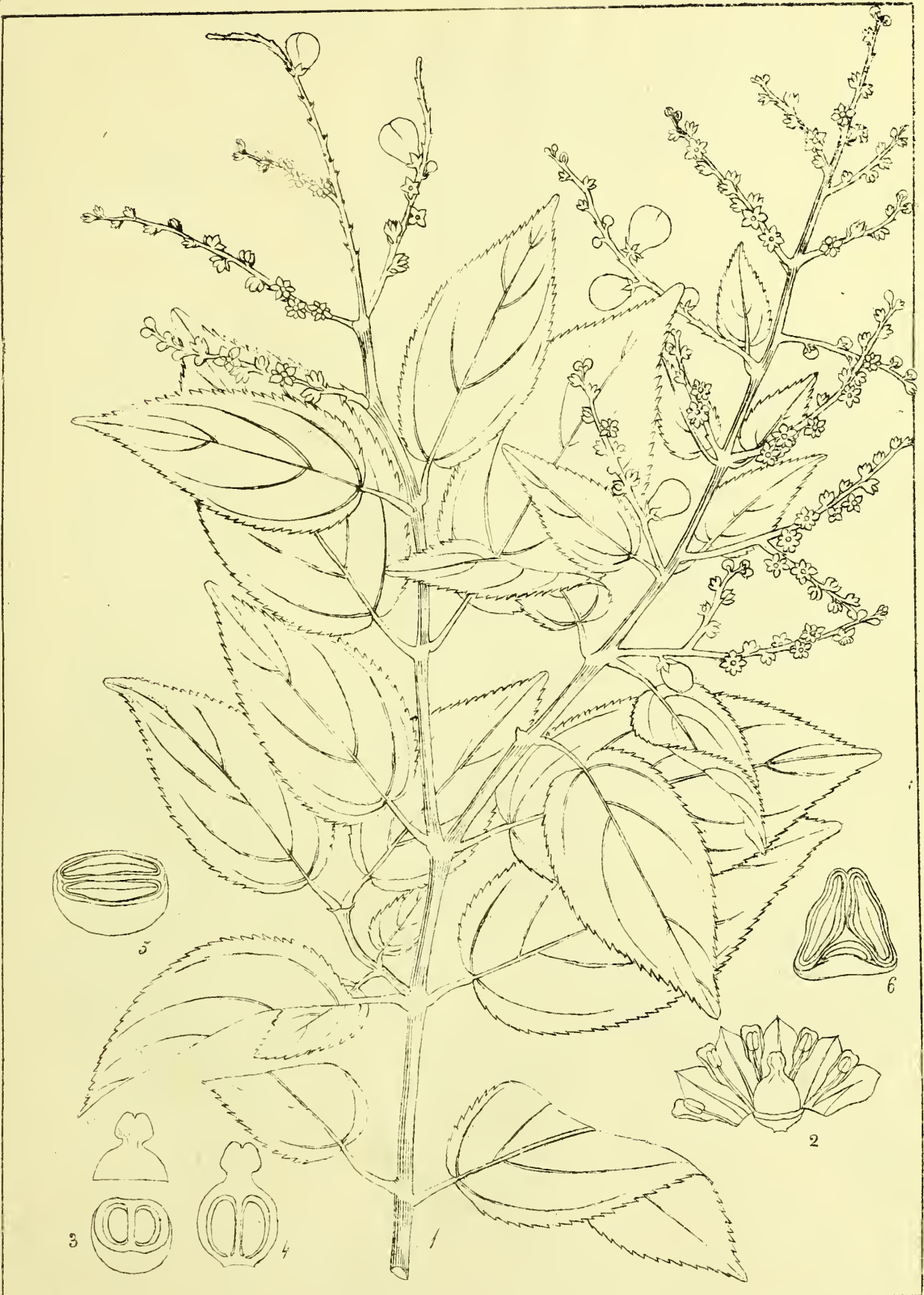
R. W. Pitt

Pollicaroy. Lem.  
 4 5 6 7 8 9 10 11.  
 Shoo-Bri-Ka. d

*Oxalis corniculata* (Linn.)  
 Wood Sorrel

Pollic-chinta. Sol  
 4 5 6 7 8 9  
 Shoo-Bri-Ka. d





*Rangia del*

*Berchemia parviflora* (Hall.:)

*Re. W. — Pitt.*





## NOTICE.

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WHEN arranging the plan of this work, the second Number of which is this day published, I could not anticipate the liberal support which has been extended to it, by having placed at my disposal copies of the magnificent collection of drawings of East Indian plants formed under the direction of the late excellent Dr. Roxburgh, so often quoted in our Prodrômus under the abbreviated title of *E. I. C. Mus.* (East India Company's Museum) For this favour the lovers of the *amabilis scientia* are solely indebted to the liberality and public spirit of Dr. Wallich, the present assiduous Superintendent of the Calcutta Botanic garden, under whose charge the originals are placed. Not calculating on such an accession to my means of carrying on the work, it was my intention, in the first instance, to confine myself to the representation of Peninsular plants, and to have numbered the figures, not consecutively, but according to the general number under which they are described in our Prodrômus.

THE introduction of Roxburgh's figures renders a deviation from this part of my original plan necessary, on which account it is now my intention to number the whole series consecutively, adding however to the Peninsular plants, the general number of the Prodrômus, both, to facilitate reference to the verbal description, and to point out, by a glance at the number, those which are ascertained to be natives of this part of India.

I MAY here observe that Roxburgh's drawings are generally on so large a scale as to render the introduction into this work of fac similes of the originals quite impossible. To obviate that inconvenience, and at the same time to prevent the risk of misrepresentation, portions only will be taken when that can be done without injuring the character of the figure, but when such a curtailing will diminish its usefulness as a guide to the knowledge of the species, as in the case of *Nephelium rubrum*, No. 24, a reduced figure of the whole will be given, as in figure No. 25, which is the same plant. Many of his figures will be introduced into the early numbers.

WHILE correcting the proof sheet of this notice I received from Dr. Wallich, a letter, in answer to one of mine transmitting for his examination and opinion copies of the two figures just quoted, from which I take the liberty of making the following extract approving of this plan. "I had the pleasure to receive yesterday your letter of the 30th ultimo, and the two proofs of *Nephelium rubrum* lithographs. The reduced one is excellent in all respects, and no doubt this plan will answer far better than having double plates, which in many cases would not even prove sufficient. I repeat it, in my humble opinion the manner of the reduction is exactly as I would wish it to be." Thus sanctioned, in the course I had chalked out for myself, I can no longer hesitate about pursuing it, and for the future shall avoid giving double plates of the same subject, except where they are absolutely indispensable to the perfect elucidation of the species.

R. W.







# EXPLANATION OF PLATES.

- 21  
94 *Capparis grandis*--*natural size*--2. A dissected flower, showing the sepals, torus, stamens, gynophore, and ovary, with single detached petal--3. A fruit cut transversely--*all magnified*.
- 22  
143 *Trichauris ericoides*--*natural size*--2. A flower, showing the relative size of the different parts--3. The same, the sepals and petals removed showing the insertion of the stamens, the ovary, style and stigmas. The detached figure the stigmas more magnified and a petal--4. Stamens--5. A diagram, showing the arrangement of the parts of the flower--6. A mature capsule burst--7. A seed with its beak--8. A portion of a branch showing the scale-like leaves--*all magnified*.
- 23  
250 x 51 *Melhanian abutiloides*--*natural size*--Branches villous, leaves pubescent above, tomentose beneath--2. A dissected flower, showing the 3-leaved involucrel, (one leaf detached) 5 sepaled calyx enclosing the ovary, and the corolla and stamens detached--3. Detached stamens showing their union at the base--4. The capsule surrounded by the persistent involucrel--5. The ovary cut transversely--6. One of the carpels, showing by the central position of the partition the loculicidal dehiscence--7. A portion of the under surface of a leaf magnified, to show the pubescence on the leaves which could scarcely have been represented with sufficient delicacy if not magnified.
24. *Nephelium rubrum*--copied from Roxburgh's drawings deposited in the Calcutta Botanic garden.--This figure represents a portion of the drawing *full size*.
25. The same--A greatly reduced figure of the whole--2. A flower opened and magnified, showing the sepals, petals, linear incurved anthers, obcordate ovary, and 2-cleft stigma--3. Ovary cut vertically, showing its two cells, and solitary erect ovules--4. Perries--5. Cut transversely--6. Seed lobes separated, showing the small embryo at the base--7. Embryo detached. See Roxb. Fl. Ind. 2 pg, 272.
- 26  
299 x 300 *Vateria Roxburghiana*--2. Sepals and ovary, with a single detached petal--3. Sepals and petals removed, showing the stamens and stigma--4-5. Detached stamens, back and front views--6. Ovary cut transversely 3-celled--7. A full grown fruit cut transversely, showing from the solitary seed that all the ovules except one had aborted--8. The same cut vertically, the circular spots are caused by irregularities in the form of the seed lobes, which, when thus cut are divided in several places--9. A seed, *natural size*--10. The same magnified, showing the manner of its suspension from the top of the cell--*all more or less magnified*. I am indebted to the unaided ingenuity of the artist for these analysis who was not at the time of making them under my superintendence, and I have not since had the means of verifying them myself.
- 27  
301 *Vatica Tumhugaia*--*natural size*--2. Dissected flower, corolla detached to show the sepals, stamens, and stigma--3-4. Stamens back and front views, anthers tipped with a tuft of hairs--5. Ovary cut transversely 3-celled, with two ovules in each--6. The same cut vertically, showing the pendulous ovules, conical style, and three stigmas--7. A mature fruit, with its enlarged wing-like sepals--8. The same, the sepals removed--9. A seed, the testa removed to show the superior radicle--*all more or less magnified*.
- 28  
424 *Vitis laecolaria*--*natural size*--2. A flower opened, showing the petals, stamens, ovary, and sessile rough stigma--3. The same petals removed--4. Stamens--5. Ovary cut vertically, ovules solitary in each cell, erect--6. The same cut transversely--7. A seed--*all more or less magnified*.
- 29  
560 *Crotalaria speciosa*--*natural size*--2. A flower detached to show the relative size and position of the involucrel, calyx and corolla--3. The same forcibly opened and the petals removed to bring into view, the stamens, style and stigma, showing all the filaments united (monadelphous,) and the anthers alternately linear and globose--4. The petals detached--5. Back and front views of one of the linear anthers--6. The ovary cut longitudinally, showing the ovules--7. A pod about half grown--8. The same opened--9. A seed--10. The same cut transversely, not yet mature--11. A portion of a leaf magnified--*all more or less magnified*.
- 30  
533 *Crotalaria hifaria*--*natural size*--2. A dissected flower, the corolla removed and the calyx opened, showing the monadelphous stamens, ovary and stigma, the anthers oblong and globose--3. The petals--4. Ovary cut open to show the ovules--5. Leaves magnified to show the pubescence which is very fine--*all more or less magnified*.
- 31  
341 *Crotalaria evolvuloides*--*natural size*, but a large form, and perhaps appears more hairy than in nature through the tendency of such lines, to become thick in course of printing--2. Petals--3. Calyx forcibly opened to show the stamens, ovary and style--4. Ovary cut lengthwise--5. A pod--6. The same opened--7. A seed--*all more or less magnified*.
- 32  
667 *Seshania Egyptiaca*--*natural size*--2. A dissected flower, the petals removed, the calyx laid open to show the diadelphous filaments, 9 and 1, and the anthers all equal--3. A portion of a pod opened, showing the seeds separated by spurious partitions--4-5. Sections of a seed--*all more or less magnified*.
- 33  
727 *Abrus fruticulosus*--*natural size*--2. A dissected flower wings and keel adhering, stamens monadelphous, much longer than the ovary and style--3. A portion of the pod opened--4. A seed--5. The same, the testa and one seed lobe removed to bring into view the embryo and radicle at the small end--*all more or less magnified*.
- 34  
730 *Phaseolus rostratus*--*natural size*--2. A flower, the vexillum removed, and the wings thrown back to show the spirally twisted keel--3. The (petals removed, showing the spirally involute diadelphous stamens and style--4. A portion of the ovary opened, showing the ovules and interposed cellular partitions--*all more or less magnified*.
- 35  
781 *Mucuna monosperma*--*natural size*--2. A dissected flower, the petals removed and the calyx partially opened, showing the diadelphous stamens, (9 and 1) anthers oblong and globose, the latter rough--3. The ovary--4. Same cut lengthwise to show the solitary ovule--*all more or less magnified*--5. A legume--6. The same opened, showing the seed with its long linear hilum--*natural size*.
- 35  
809 *Cæsalpinia paniculata*--*natural size*--2. A flower opened to show the different parts--3. The ovary, the calyx and petals, except the vexillum, removed, to show the attachment of that petal--4. A legume opened to show the solitary seed--5. A seed cut transversely--*all more or less magnified*.
- 37  
873 *Cæsalpinia sepiaria*--*natural size*--2. A dissected flower but badly represented, in as much as it seems to place three calycene lobes in place of two, next the axis--3. A legume, *natural size*--4. A seed--5. The same, a portion of the testa removed to show the cotyledons and straight radicle *in situ*--6. The cotyledons removed--7. Leaves magnified to show the pubescence--*all more or less magnified*.
- 38  
123 *Rosa Leschenaultiana*--*natural size*--2. A dissected flower, the petals removed, and the segments of the calyx thrown back to show the contraction of the hollow receptacle round the style--3. An anther--4. The tube of the receptacle cut vertically to show the ovaria concealed within--5. A fruit--6. The same cut vertically--*all more or less magnified*--7. A cluster of fruit--*natural size*.
- 39  
1100 *Passiflora Leschenaultii*--*natural size*--2. A dissected flower, the calyx removed, and the corolla with one row of the coronal filaments detached, leaving the interior row surrounding the ovary, stamens and styles--3. Two of the coronal filaments more magnified--4. A flower cut vertically, showing the stalk of the ovary surrounded by the united filaments of the stamens, and surmounted by the styles and stigmas--5. The ovary cut transversely--6. The same cut longitudinally.
- 40  
129 *Guetarda speciosa*--*natural size*--2. A dissected flower, showing the tubular truncated calyx: the corolla laid open, the stamens adhering to its inner surface the whole length of the tube, equalling the number of its segments, and alternate with them--3. Ovary cut vertically--4. The same cut transversely showing it, in this instance, 5-celled--5. A full grown fruit cut across--6. The same cut vertically, bringing into view through their whole length two of the curved cells with their enclosed seed--7. A seed removed--*all more or less magnified*.



*Ranunc. det.*

*R. W. Linn.*

*Capparis grandis* (Linn.)







Rangia del

*Tichauxia ericoides* Arn.

B. W. Pitt.







*Melhania abutiloides* Arn.





Koi-poori. H.

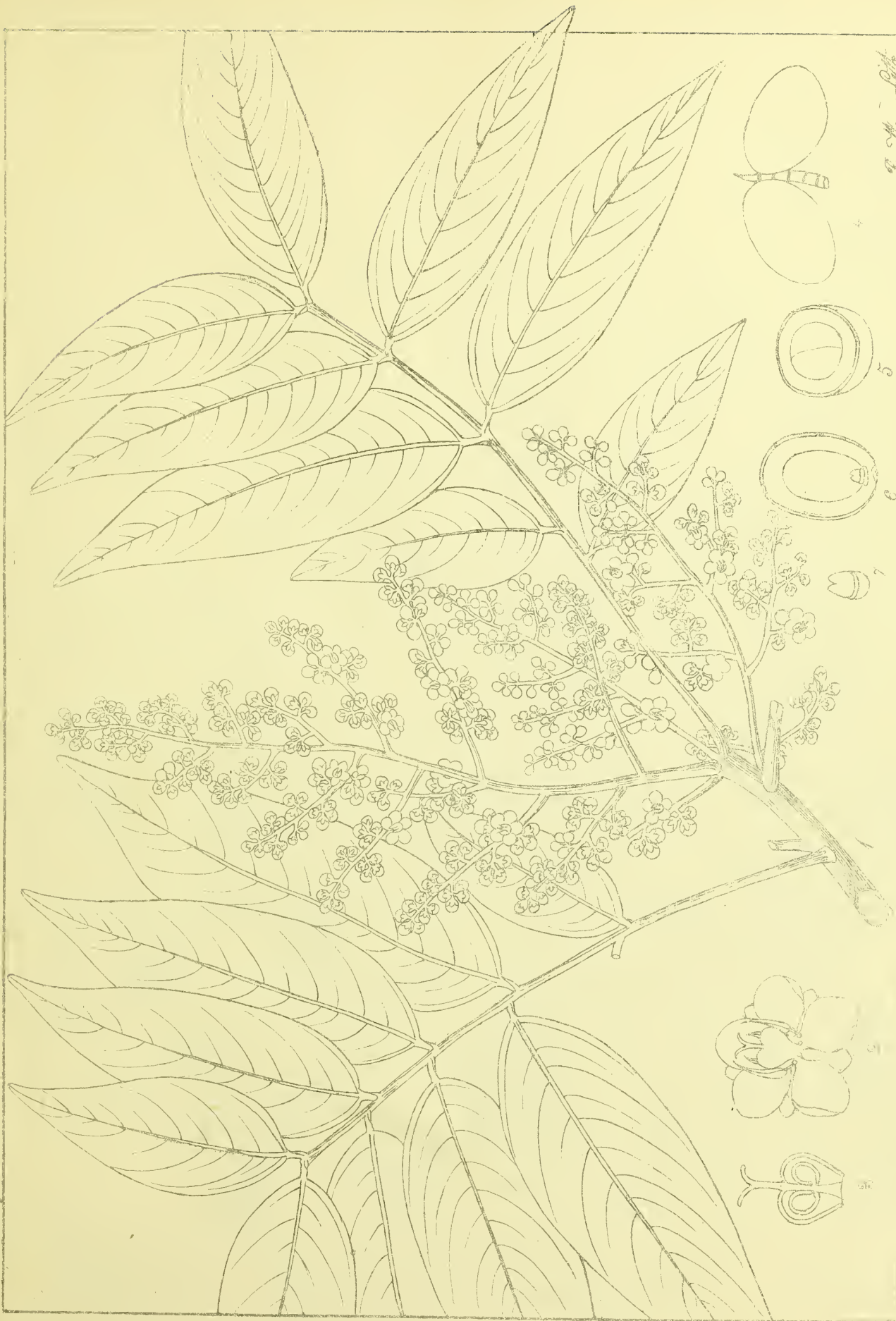
*Nephelium rubrum*  
*Scytalia rubra* Roxb.





*Tapiinducea*

*Rorburghianae*



*E. M. Little*

*Metelium rubrum*

*Lythrum rubrum*

*Rorburghianae*





*Rungia del*

*Valeria Roxburghiana R.W.*

*R. H. — L. H.*

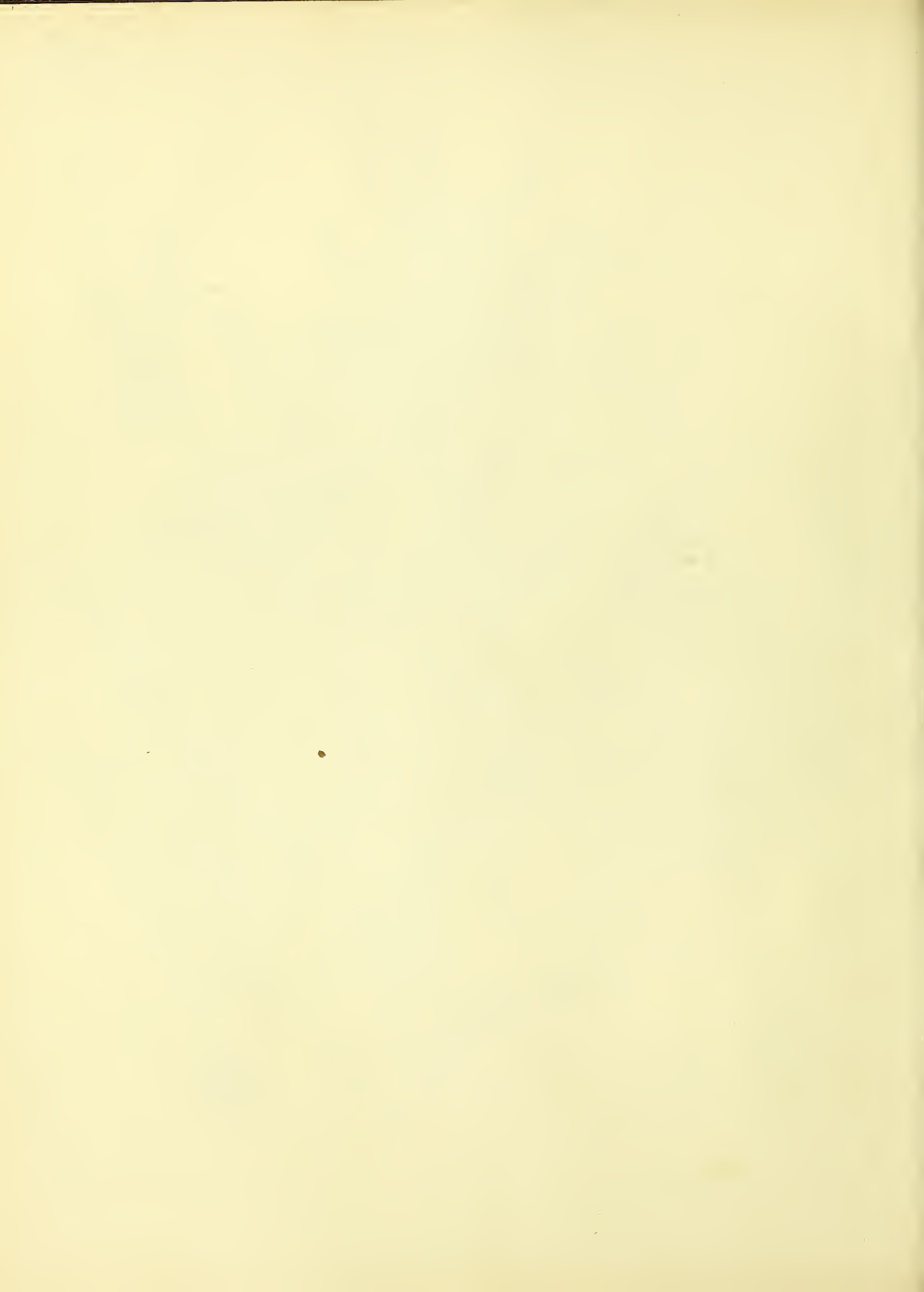






*Rungia del.*

*Vatica lumbogaia* (W. & A.)





*Rungia* del.

2

*Vitis lanceolaria* (Wall.)

*E. W. Pitt.*



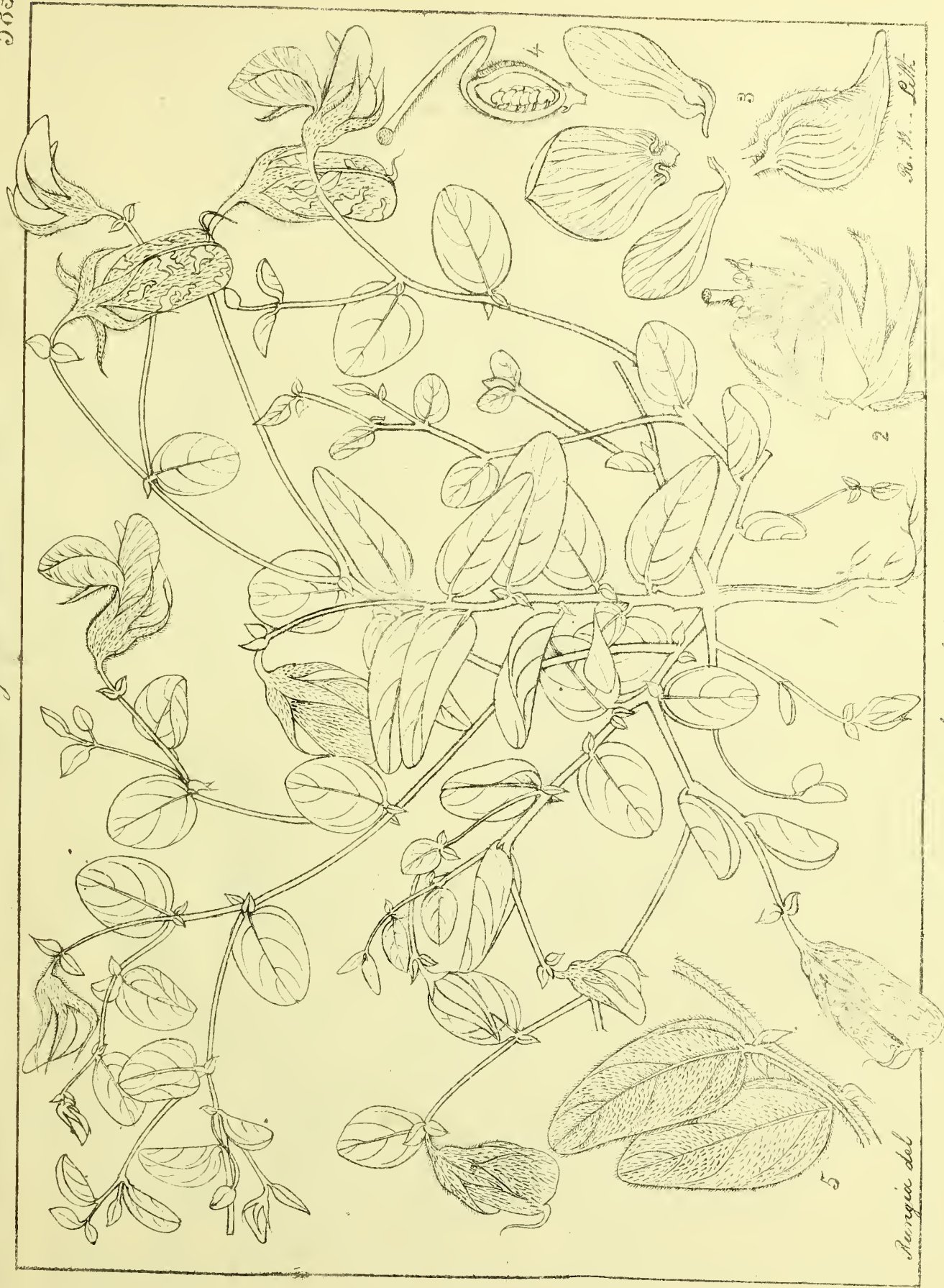




*Rotalaria speciosa* (Heyne.)



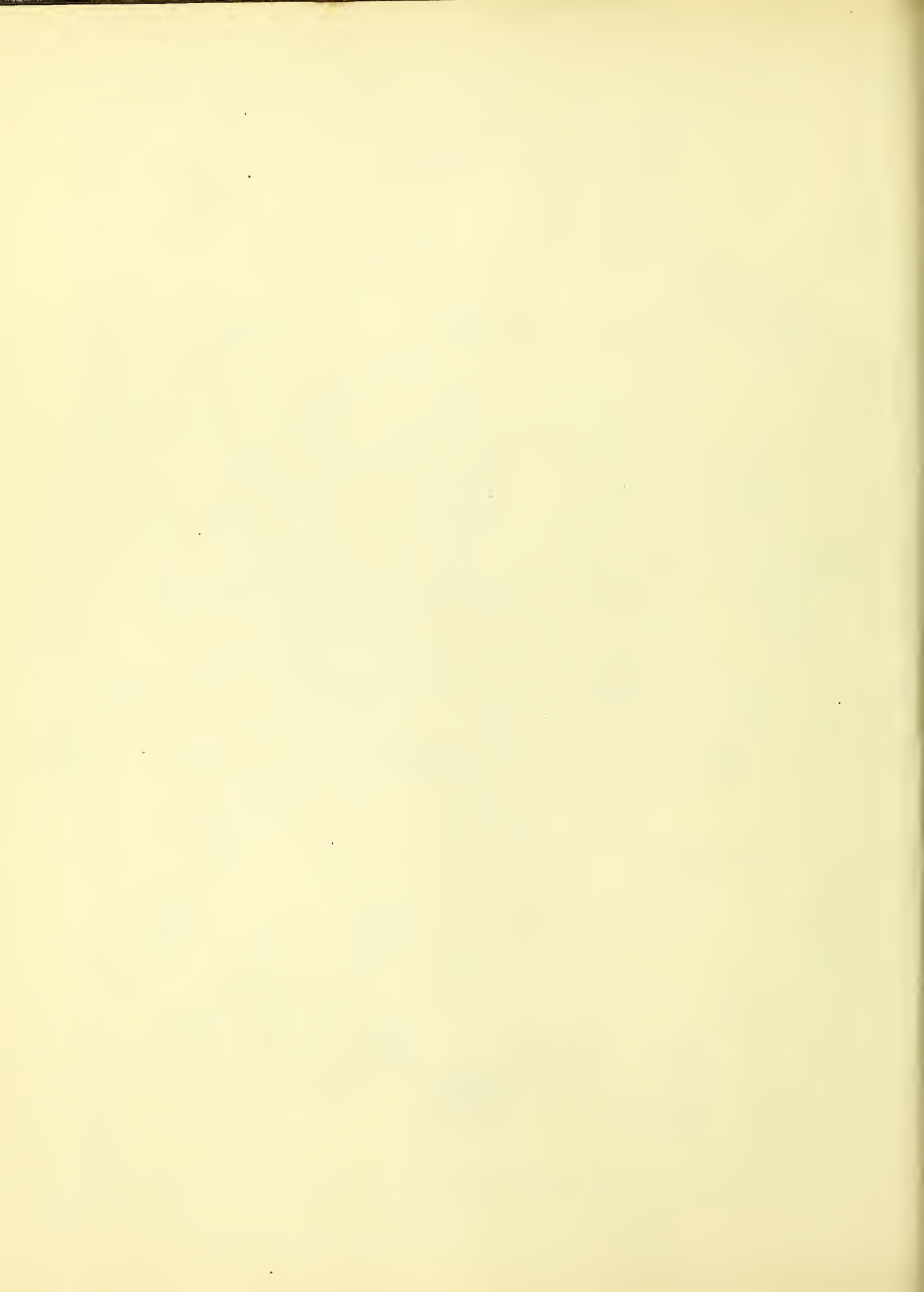




*Protalaria bipartita* (Linn.)

Borgia del

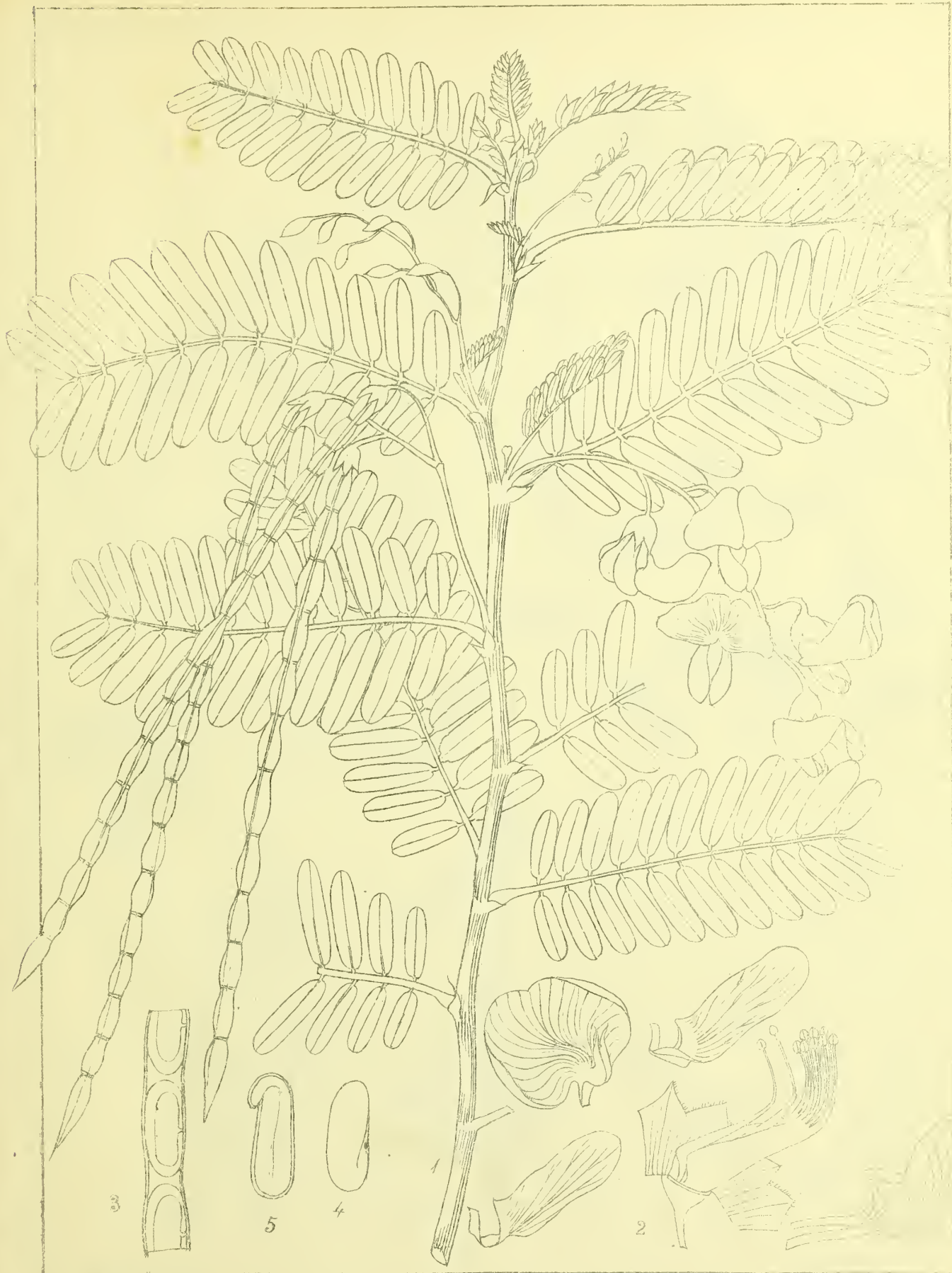






*Arotalaris involutoides* (Hight.)





Ramisco del  
65 55 55 55 55

Carion - chombai Sam.

*Sesbania aegyptiaca* Pers.  
*Aschynomene sesban* Linn.  
*Coronilla sesban* Willd.

R. W. ...  
Milla ...  
Jant, Jan 18 55







Rangia del

Dumphy. Lith

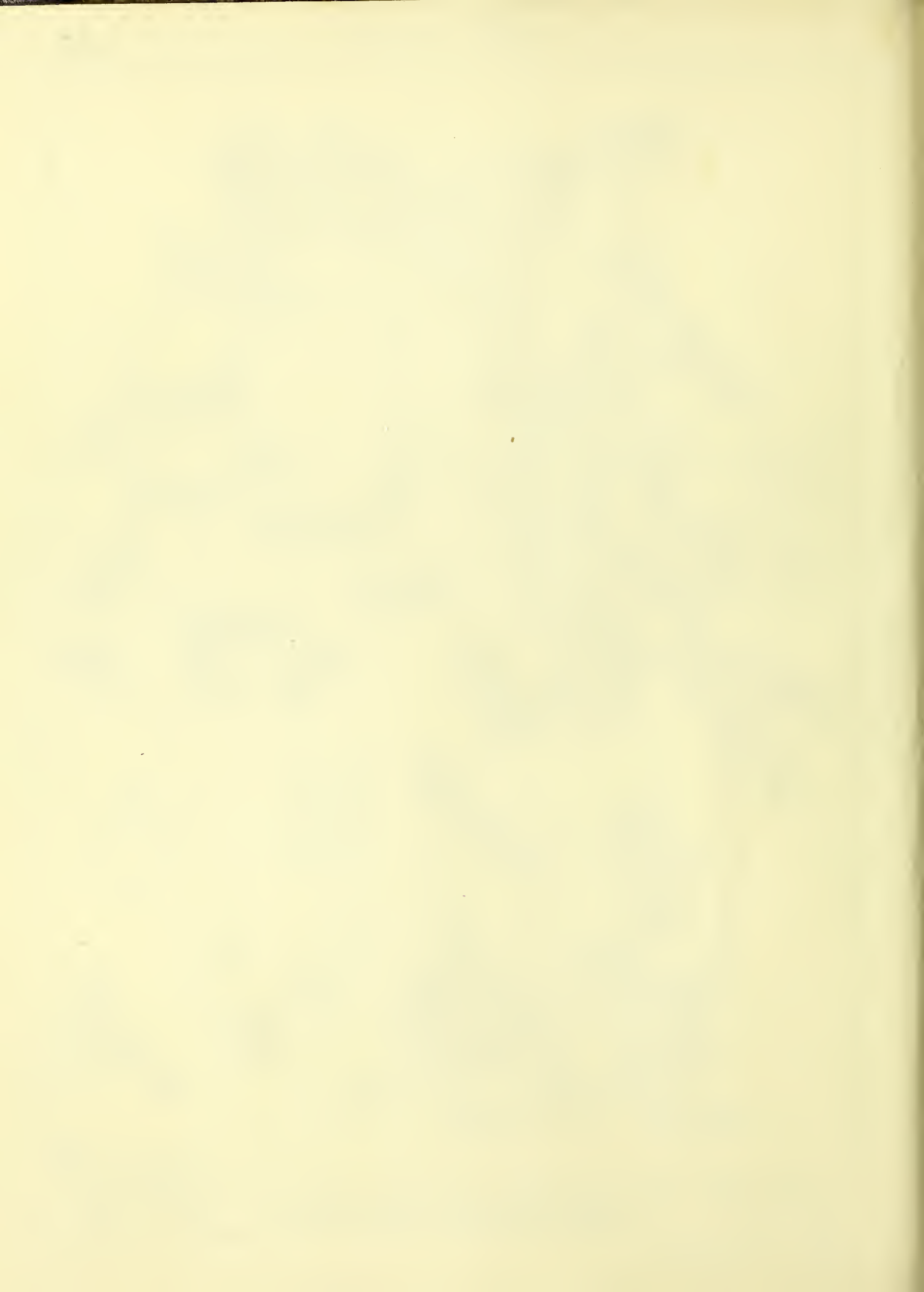
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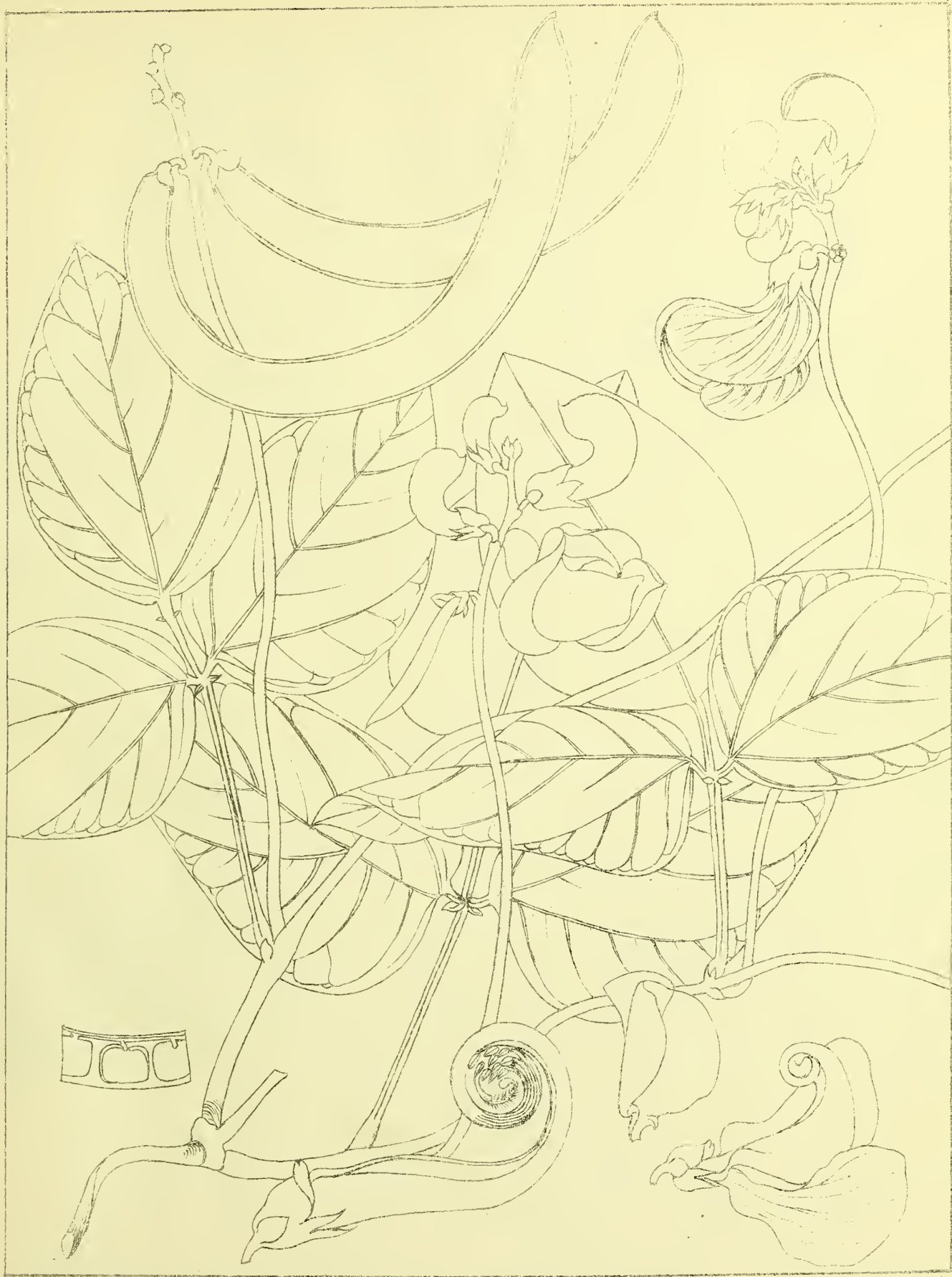
*Abrus pliculatus*. (Herb. Madri.)

ଅବ୍ରୁ ପଲିକୁଲସ୍

Chinna Gooie - gheeya. S.

*Ononis mucronata*. Lam





*Phascolus* del.  
*Ban-barbutee*. B.

*Phascolus rostratus* (Hali.)

*Ph. H. Lith.*  
*Ph. aliana*. Sel.







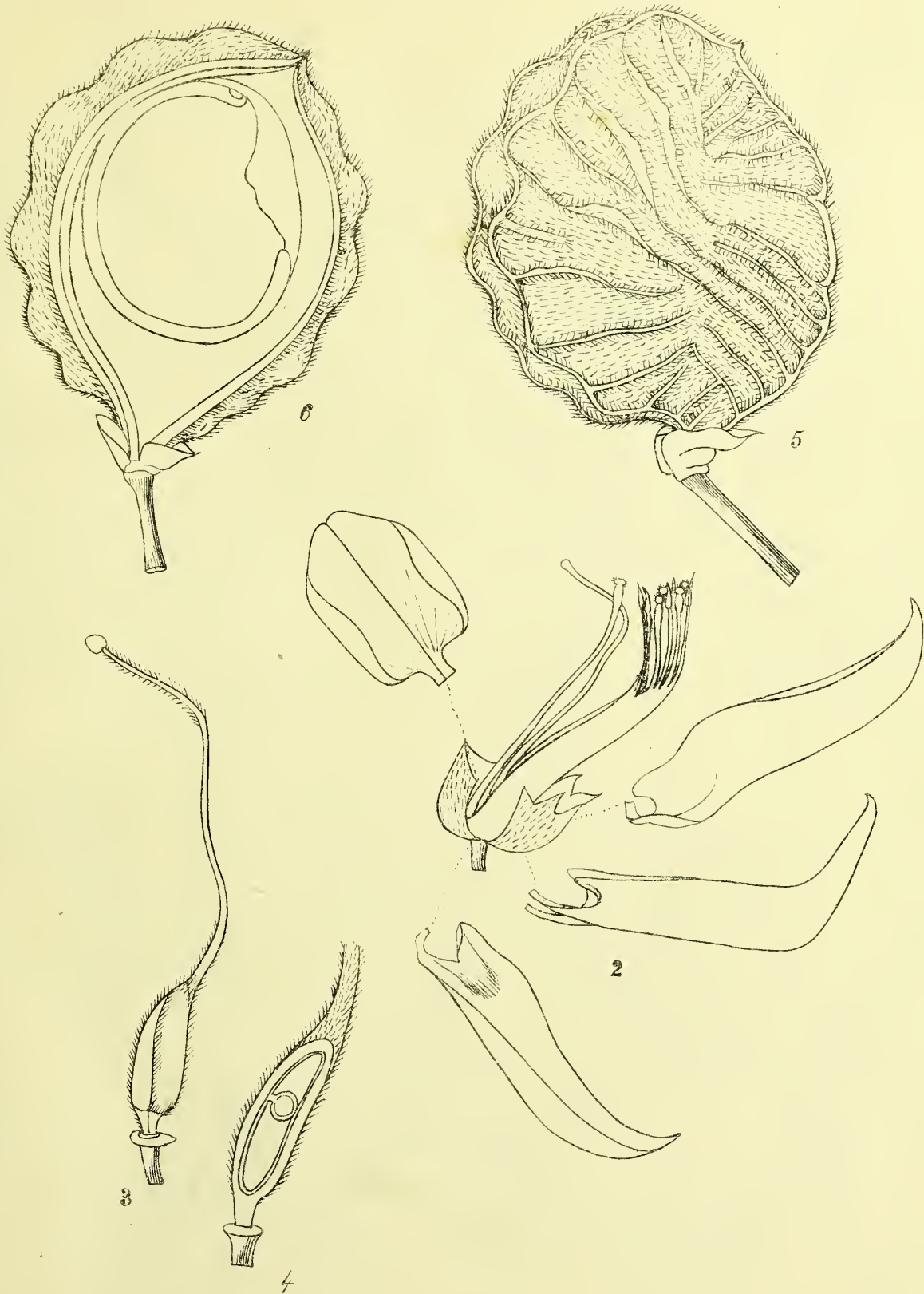
Pungia del

R. W. Hill

Borgg. 6872  
Hiciss - Codic. Linn.

*Mucuna monosperma* (C. C.)  
*Carpodogon monospermum* Rest.





Rangia del.

R. W. Little

முகுனா மோனோஸ்பர்மா.

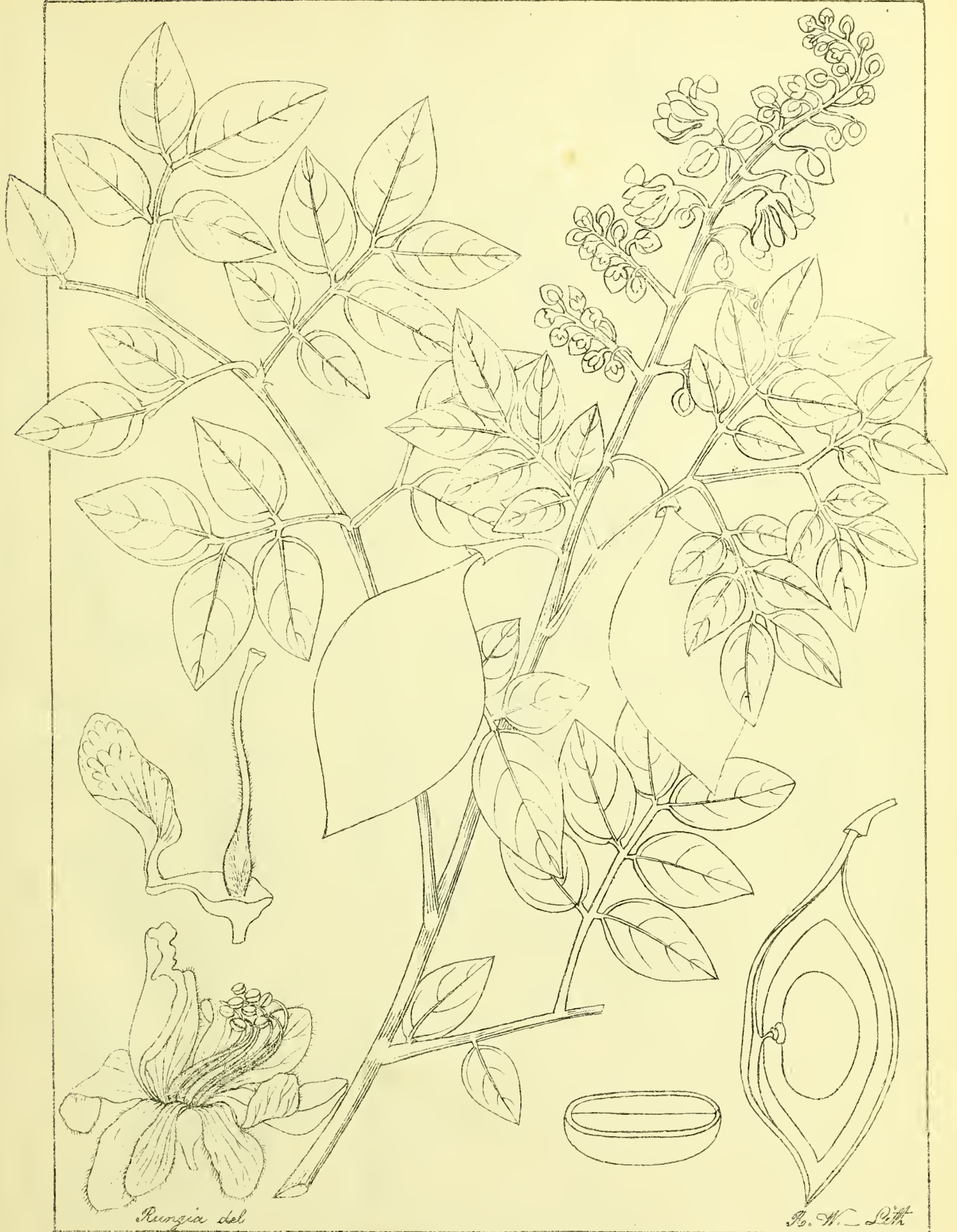
Shelloo - Codie Sam.

*Mucuna monosperma* (D.C.)

*Carpophogon monospermum* Roxb.



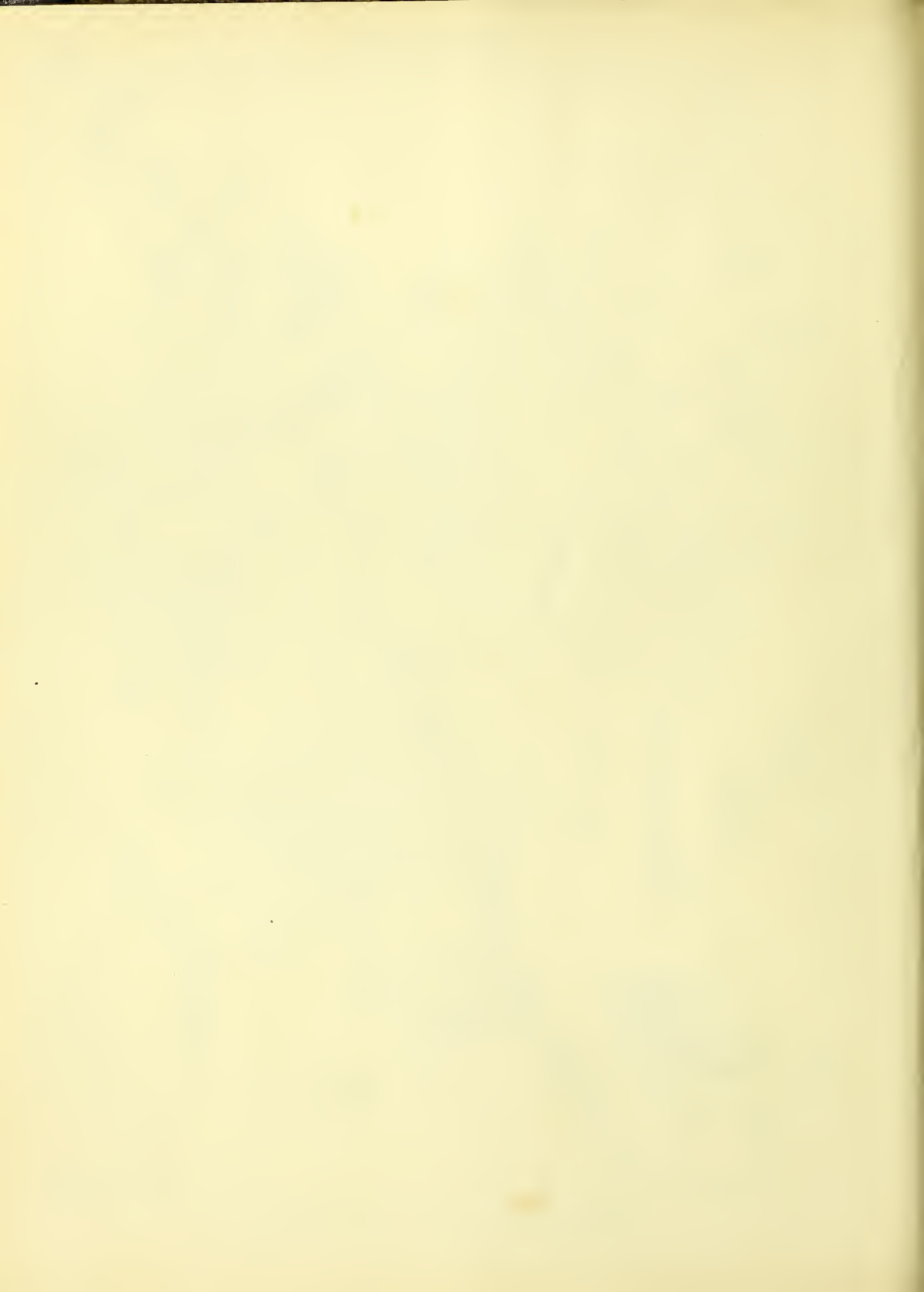


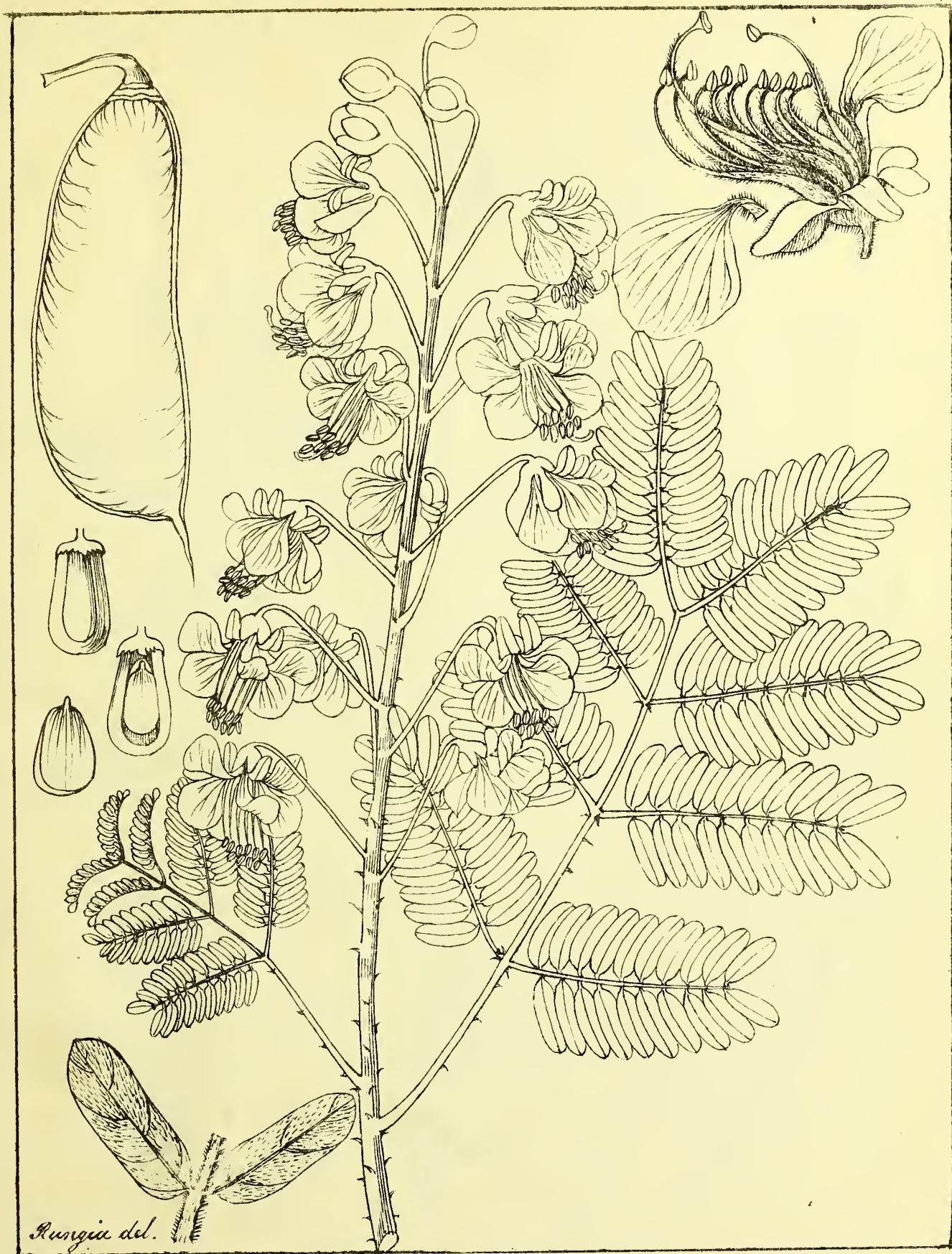


Rungia del

R. W. Pitt

*Caesalpinia paniculata* (Roxb.)

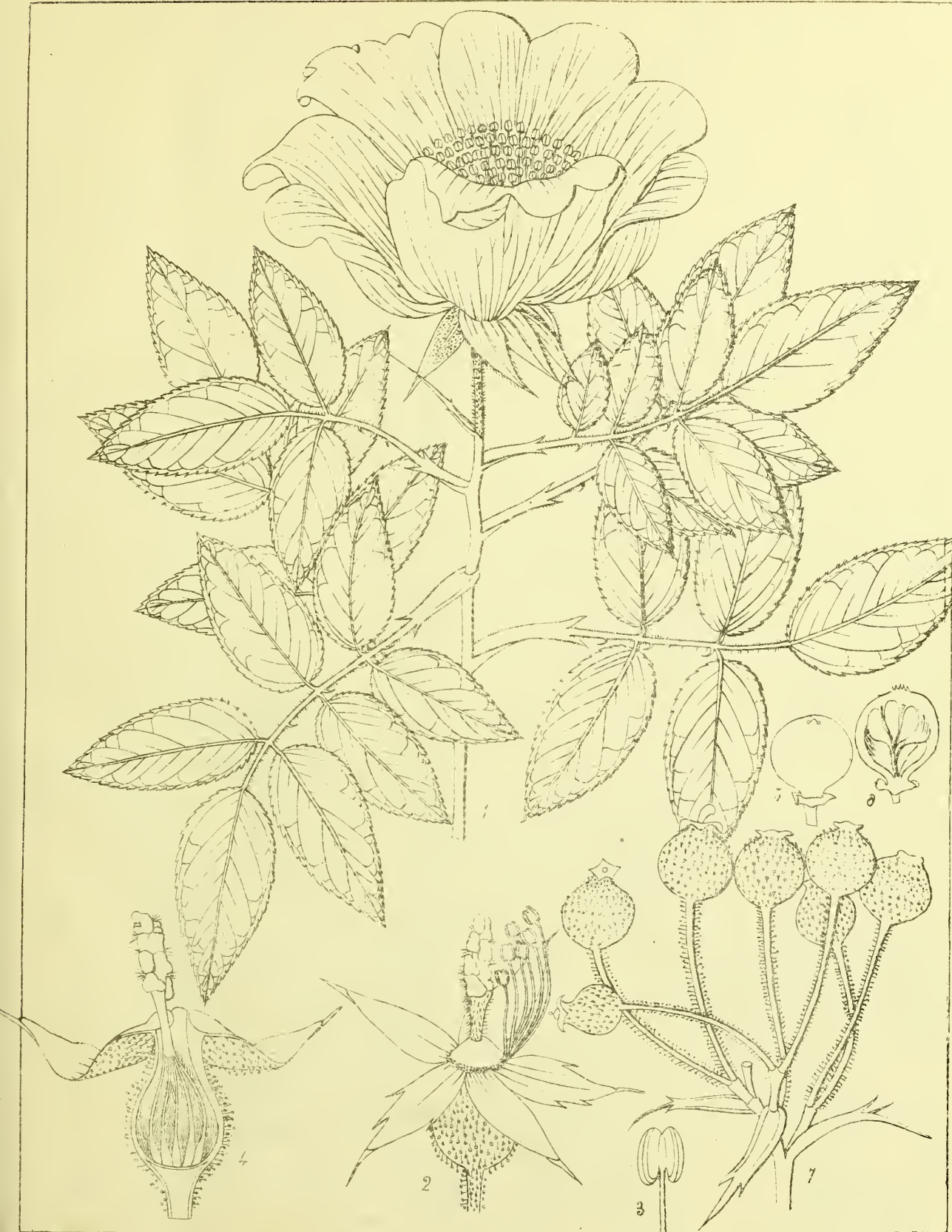




*Cesalpinia sepiaria* (Roxb.)





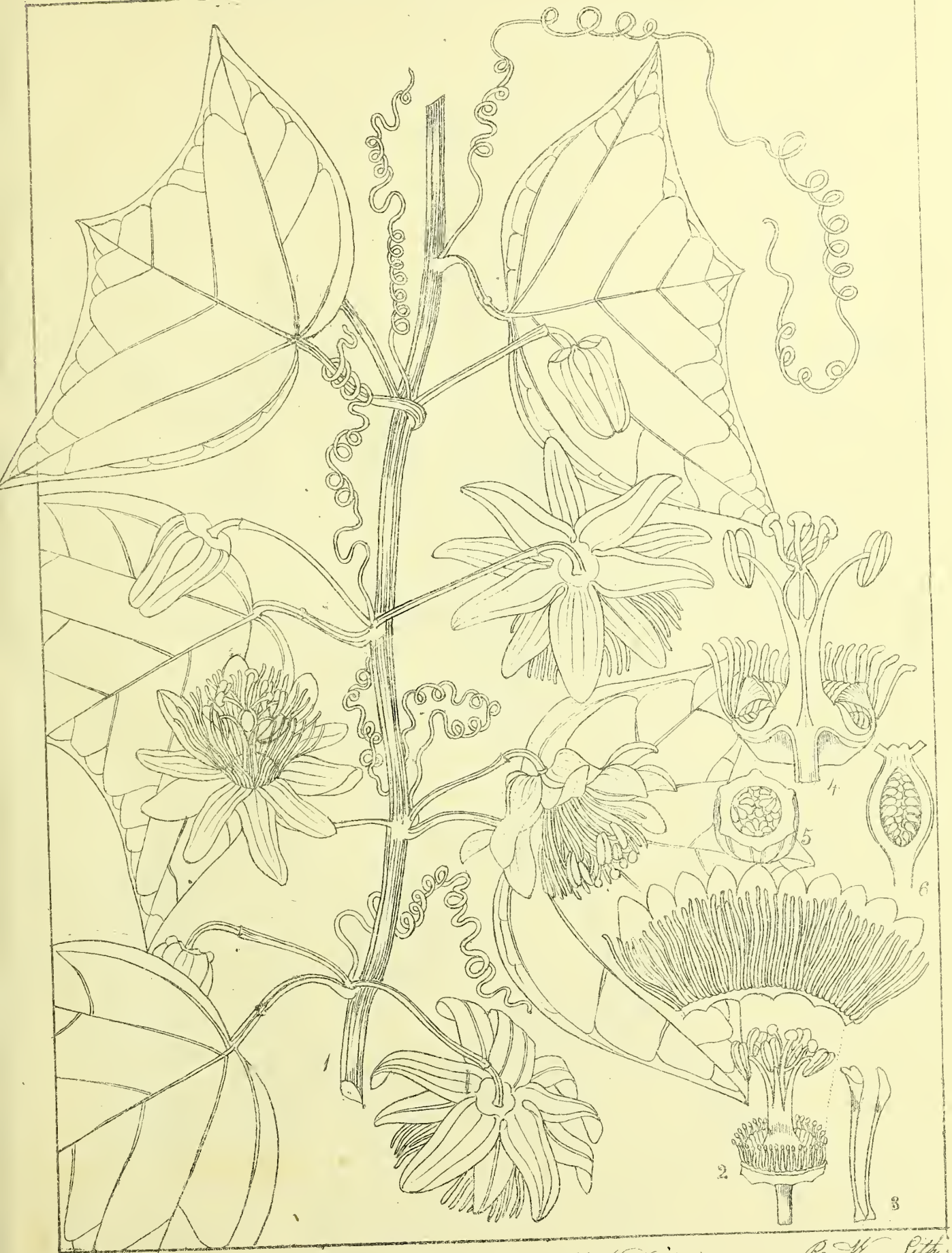


*Augisch del.*

*Rosa Leschenaultiana* (Red. & Thor.)

*B. W. - Lith.*





*Rungia del*  
*Flora de Malacca*  
*Genesky - 1800. Lam.*

*Paspiflora Lechenaultii* (D.C.)

*R. W. Litt.*  
*Malay-Genesky.*







Ruqia del

L 1007 15 to 16

*Guettarda speciosa* (Linn.)

Donn. & L. Pith

Panneer Kogad. Huk.

Panneer - Mauros. J.

Panneer Marum. Lam







## EXPLANATION OF PLATES.

41  
— *Hibiscus hirtus*—*natural size*—2. Staminal tube, with a portion of 186 the styles and stigmas—3. An anther—4. A capsule—*all magnified*.

42  
191 *Decaschistia crotonifolia*—*natural size*—2. Staminal tube, with the cohering clavate stigmas projecting—3. The calyx split open, the corolla and stamens removed, showing the ovary, style and stigma, with the projecting points of the involucrel—4. A young capsule cut transversely, showing its 10 cells and 10 valves, with a solitary seed in each—5. The staminal tube split open, and its attachment to the corolla shown—6. An anther—7. The same after having shed its pollen—8. A mature capsule—*natural size*—9. Half of one of the cells with a seed attached, the remaining partition showing the loculicidal dehiscence—10 (9) 11. Portions of the upper and under surfaces of the leaf magnified, to show the stellate pubescence above and the tomentum beneath, *all, not otherwise mentioned—more or less magnified*.

43 *Nephelium Litchi*—*natural size*—copied from Roxburgh's drawing—2-3. Dissected male flowers, one with 4, the other with 5 lobes to the calyx—4. A bisexual flower—5. The ovary cut vertically, showing the two cells.

44  
279 *Grewia columnaris*—*natural size*—2. A dissected flower, showing the sepals detached, the small petals enclosing and concealing the ovary, the stamens, the style, and 4-lobed stigma—3. Back and front views of the anthers—4. The ovary on its columnar pedicel, showing the place of insertion of the petals and stamens—the detached figure a petal—5. Ovary cut transversely—6. Vertically—7. A full grown fruit cut transversely, 4-celled, two of the nuts or cells with 2 seed in each, two with solitary seeds—8. A seed removed from the nut—9. The same cut longitudinally to show the embryo—10. The embryo removed—*all magnified*.

45  
291 *Grewia rotundifolia*—*natural size*—2. A dissected flower, the sepals separated and thrown back to show the smaller petals, the stamens and stigma—3. A petal showing the nectarial gland at the base—4. Ovary, style, and stigma—5. Stamens back and front—6. Ovary cut transversely, 2-celled, with two ovules in each—7. The same cut vertically, showing the ovules superposed—8. A drupe, with two 2-celled nuts—*all more or less magnified*.

46  
296 *Elæocarpus oblongus*—*natural size*—2. A dissected flower, the petals removed, one petal detached to show its form and fimbriated margin—3. The ovary with its glands and two stamens—4. The ovary cut transversely, 3-celled, with two collateral ovules in each—5. The same cut vertically—*all magnified*.

47  
310 *Cleyera gymnanthera*—*natural size*—2. A flower opened, showing all the parts *in situ*—3. The same dissected, the stamens adhering to the bottom of the petals—4. Anthers back and front views—5. An ovary cut vertically, showing the pendulous ovules—6. The same cut transversely—7. A mature fruit, a portion of the pericarp removed to show the pendulous seed—*all more or less magnified*.

48  
5 *Thalictrum glyphocarpum*—*natural size*—2. A flower—3-4. Anthers back and front views, showing their extrorse or rather marginal dehiscence—5. Ovary cut vertically, showing the solitary ovule.

## NEUROCALYX—HOOKER.

GEN. CHAR. Calyx tube obconical. Limb 5-parted, persistent. Corolla rotate, 5-part-ed. Stamens 5. Filaments 0. Anthers large united into a tube. Ovary turbinate, crowned with an opercular disk, 2-celled, many seeded, seeds attached to a large central placenta. Style filiform. Stigma simple or discoid, capsule 2-celled, seeds numerous, dotted on the surface.—Herbaceous plants, with entire lanceolate leaves, large, variously divided, stipules, axillary erect or pendulous racemes, and bractiate flowers.

N. *Zeylanicus*, Hooker.—Stipules many cleft, segments subulate; racemes erect.

N. *Hookeriana*, R. W.—Stipules 2-cleft, segments acuminate, racemes pendulous.

52  
1215 × 46 *Neurocalyx Hookeriana*—*natural size*—2. A flower opened, showing the calyx, corolla, and staminal tube—3. Staminal tube removed and split open, showing the form and union of the anthers—4. The ovary crowned by the persistent calyx, style and stigma—5. The same cut transversely, showing its two cells and numerous ovules, covering the large central placenta—6. A seed—*all magnified*.

49  
10 *Ranunculus subpinnatus*—*natural size*—2. A flower, the petals removed—3. A seed, both *magnified*.

50  
413 *Vitis pallida*—*natural size*—2. A flower full blown, showing the stamens opposite to the petals—3. A berry cut transversely, one seeded—*all magnified*.

51  
410 *Vitis quadrangularis*—*natural size*—2. A flower—3. The same the petals removed, showing the insertion of the stamens—4. Ovary cut vertically—*all magnified*—5. A cluster of berries—*natural size*.

53  
1339 *Coffea arabica*—*natural size*—2. Corolla and stamens—3-4. Anthers—5. Ovary, style and stigma—6. Ovary cut vertically—7-8. Berry cut transversely and longitudinally—9-10-11. Seed—*all magnified*.

54  
1343 *Geophilla reniformis*—*natural size*—2. Corolla split open to show the enclosed stamens—3. The ovary and calyx—4. An anther—5. The ovary, style and stigma—6. A fruit cut transversely—*all more or less magnified*.

55  
366 *Salacia pomifera*—*natural size*—2. A flower showing the 5 petals, 3 stamens and disk—3. A side view of the same, the petals removed, showing the broad base of the filaments, and the short thick stile—4. A young fruit cut transversely, 1-seeded—5. A fruit *natural size*—6. The same cut transversely—7. A seed—*Except in the instance specified—all magnified*.

## NORYSCA—SPACH.

GENERIC CHARACTER. Sepals 5, coriaceous, equal, erect after expansion. Petals oblique, deciduous. Stamens 5-delphous, androphores, (the united portion of the filaments) short deciduous. Ovary 5-celled, ovules numerous. Styles 5, sometimes united to near the apex. Stigmas minute, suborbiculate. Capsule 5-celled, subcoriaceous. Placenta pyramidal, 5-sided, with five crests, (the crests bearing the seeds) seed minute, nearly straight.

56  
345 *Norysca mysorensis*—*natural size*—2. A dissected flower, showing the sepals, ovary, styles, stigmas and a detached petal—3. A bundle of stamens, showing the relative length of the androphore, and the free portion of the filaments—4. Anthers—5. Ovary cut transversely—6. Mature capsule burst, showing the septicial dehiscence—7. One carpel with its seed cut transversely—8. The central placenta as it appears after the cells of the capsules have separated and shed their seed—9. Seed dissected—*all more or less magnified*.

57  
772 *Lablab vulgaris*—*natural size*—2. A dissected flower, showing the bractea and sepals *in situ*, the petals detached, the stamens, style and stigma—3. An ovary cut open, showing the 4 ovules—*all magnified*—4. Two pods detached—5. A pod opened to bring into view the seed—*natural size*.

58  
798 *Erythrina indica*—a raceme of flowers and portion of a leaf—*natural size*—2. A flower somewhat opened—*natural size*—3. The same dissected, showing the wings and keel, adhering by pairs, separated, the calyx, pedicelled ovary, solitary stamen, & the remaining stamens, with the united filaments, detached—4. Anthers—5. The ovary cut longitudinally, containing 5 ovules—6. The stigma—7. A pod, *natural size*—8. A portion of the same opened to show the seed—9. The seed cut longitudinally and transversely—10. A small portion of a leaf magnified to show the pubescence—*all except the pod more or less magnified*.

59  
805 *Pongamia glabra*—*natural size*—2. A dissected flower, showing the truncated calyx opened, the petals removed and separately represented, the wings and keel adhering, the stamens diadelphous, (9 and 1)—3. A pod opened to show the solitary seed—4 and 5. Seed lobes and embryo—*all magnified*.

60  
530 *Odina wodier*—*natural size*—2. A male flower, showing the sepals, petals, stamens, and sterile ovary—3. The same, the petals and stamens removed to bring into view the disk and attachment of the sterile ovary—4. Fertile bisexual flowers, showing the ovary, 4 stigmas, and the stamens much shorter than those of the male flower—5. The ovary cut vertically showing the solitary pendulous ovule 7-8—The fruit cut transversely and vertically—9. The seed lobe removed from the nut and testa, mottled on the surface, the small figure *natural size*, with that exception, *all more or less magnified*.



*Reingia del*

*R. W. Lith*

*Hibiscus hirtus* (Linn.)







*Decaschistia crotonifolia* (W. & A.)







Litchi 43

*Nephelium Litchi*  
*Litchia Litchi Roxb*

Fl. H. — Litchi  
 Descher. M. P.





Boylston -  
Thoutla - Jan

*Grewia columnaris* (Sm.)





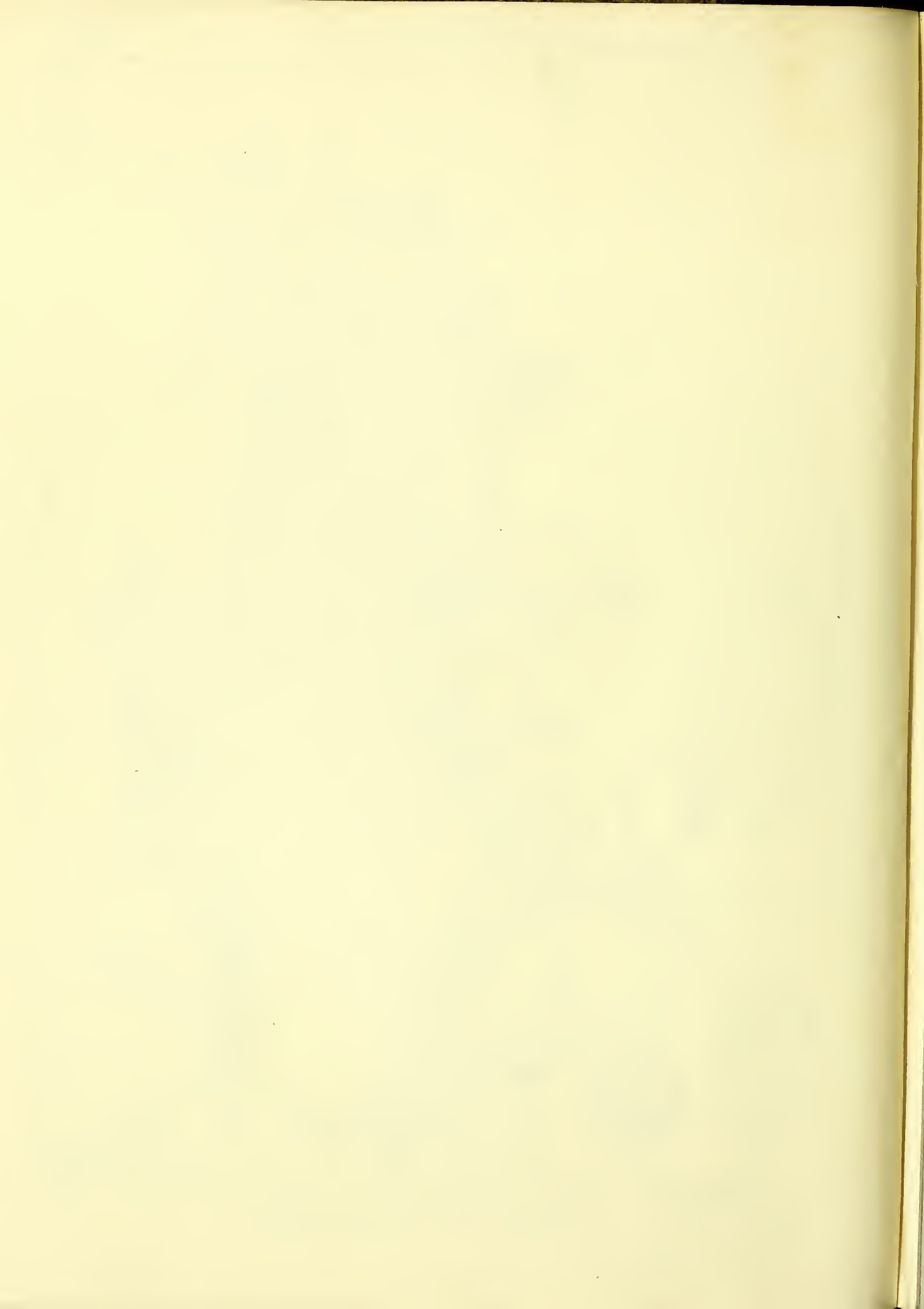


Rungia del.

Dumphy. Sill.

6849549.  
Vichetty - Sam

*Grewia rotundifolia* (Russ.)





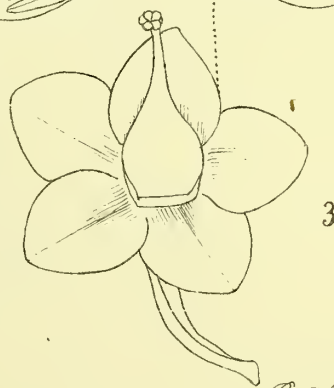
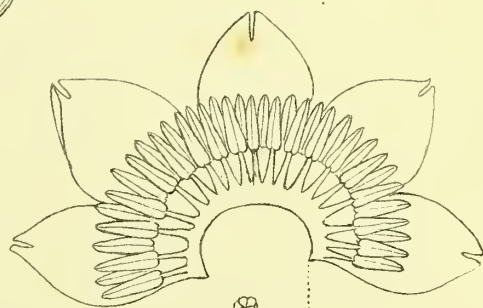
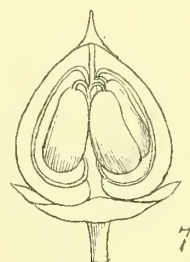
Rungia del

*Elaeocarpus oblongus* Gaertn.

R. W. Little



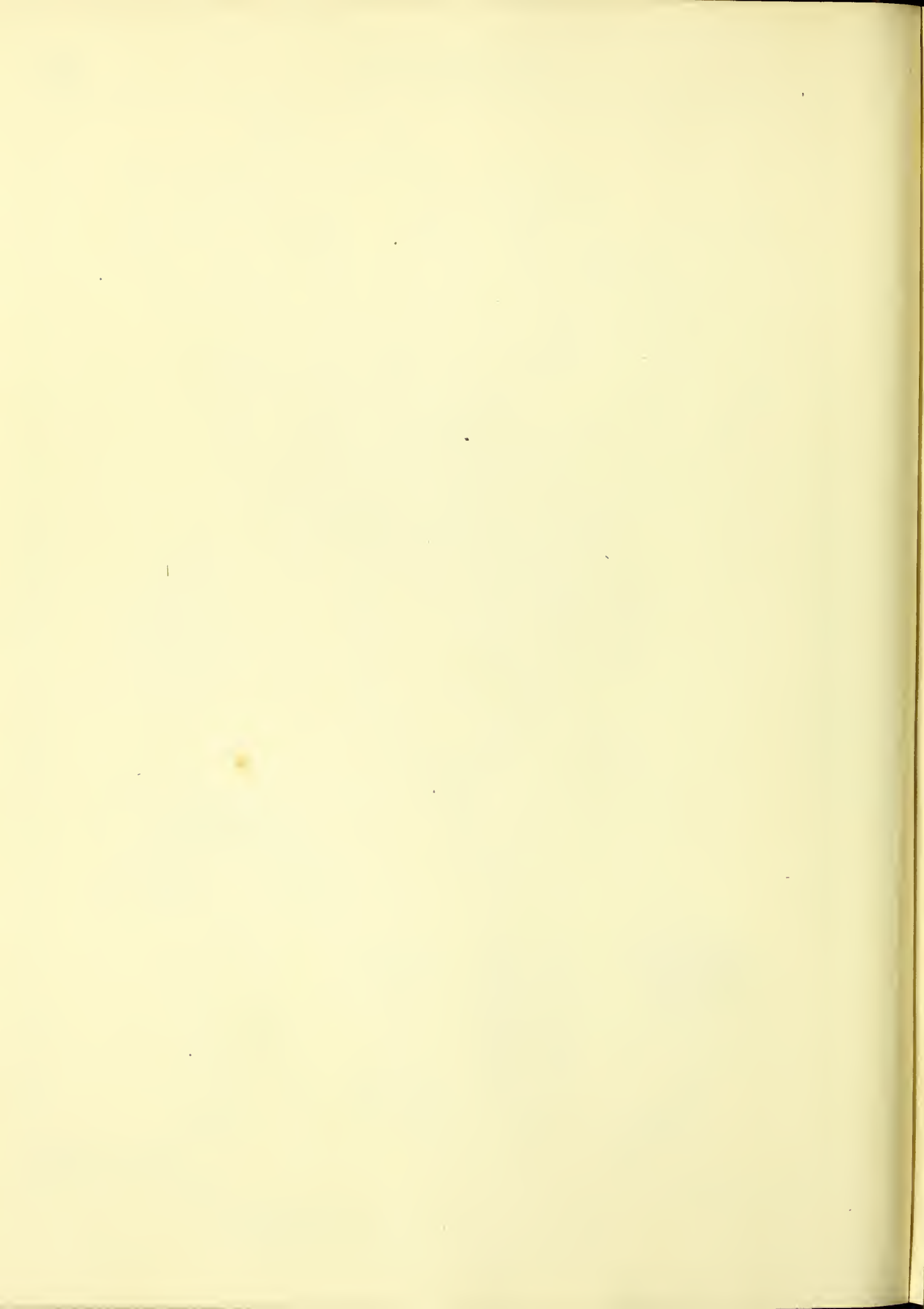




*Rangia del*

*Bo. W. Pitt*

*Cleyera gymnanthera* (W. & A.)





*Rungia del.*

*H. W. Pitt.*

*Thalictrum glyphocarpum* (W. & A.)







Rungia del.

P. W. Litt.

*Ranunculus subpinnatus* (W. & A.)





*Graef. Loba. B.*

*Vitis pallida (W & A)*

*Manat. Nigra. Carr.*







*Rungia del.*

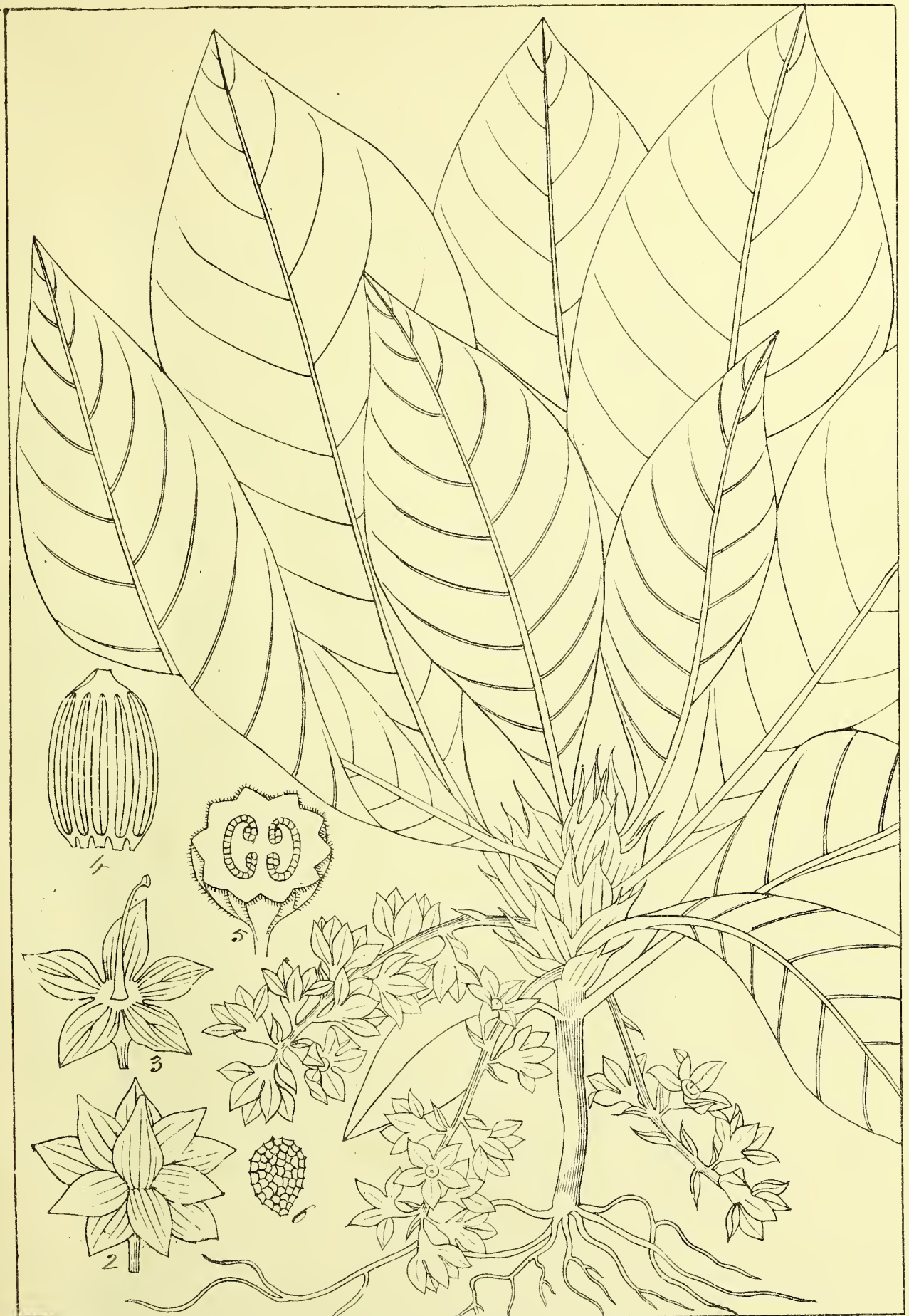
R. W. Loh

*Quercus agrifolia*  
*Prunella cordata*  
*Passiflora*

*Vitis quadrangularis* (Wall.)

*Stellaria media*  
*Wach. hirsuta*

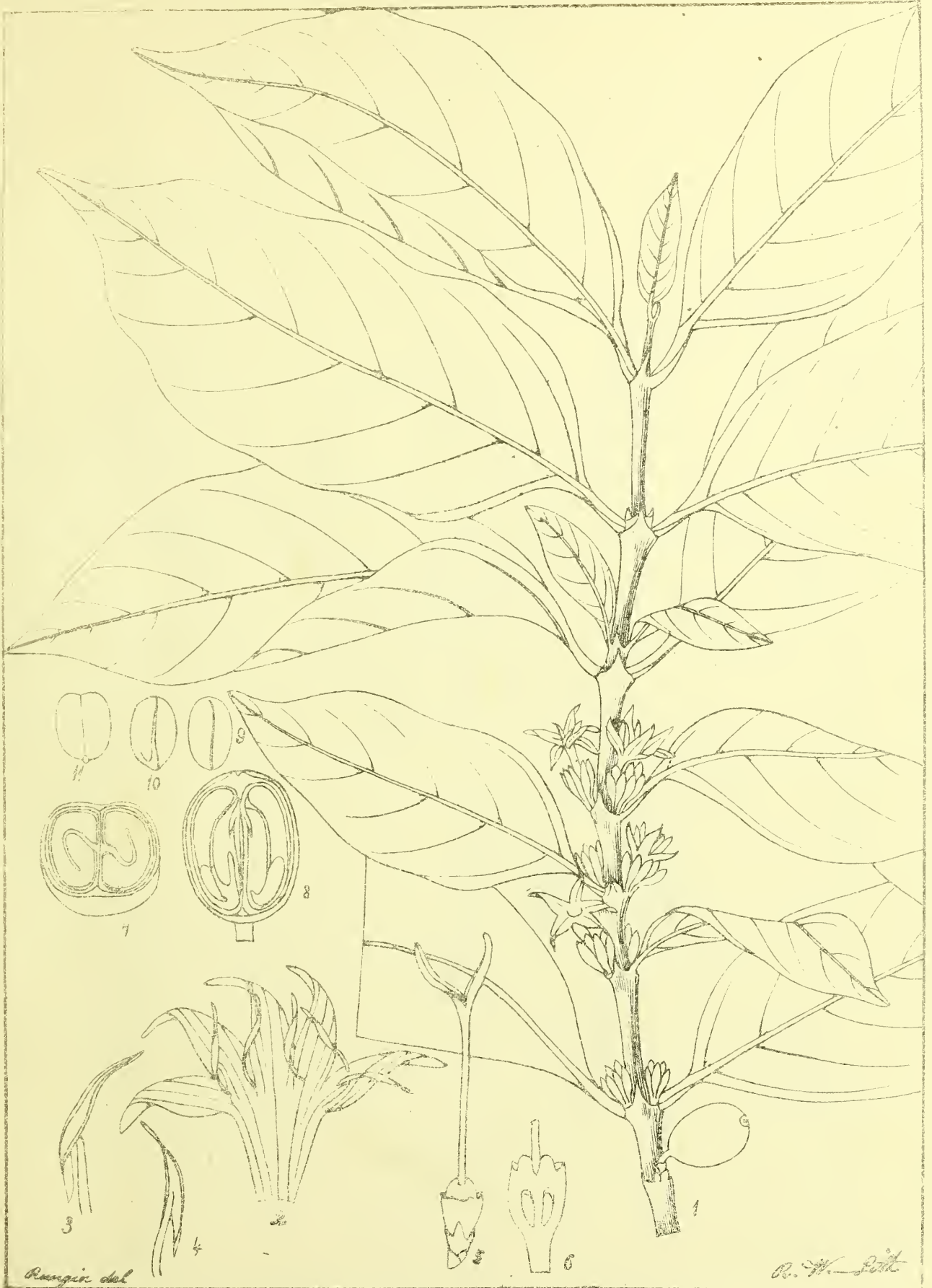




*Neurocalyx Hookeriana* R.W.







Rangin del

R. W. Ditt

6119 6119 - 6119

*Coffea arabica* Linn.

*Coffea arabica* (Linn.)

Flora B.  
Tokhm Kanch. Pers.





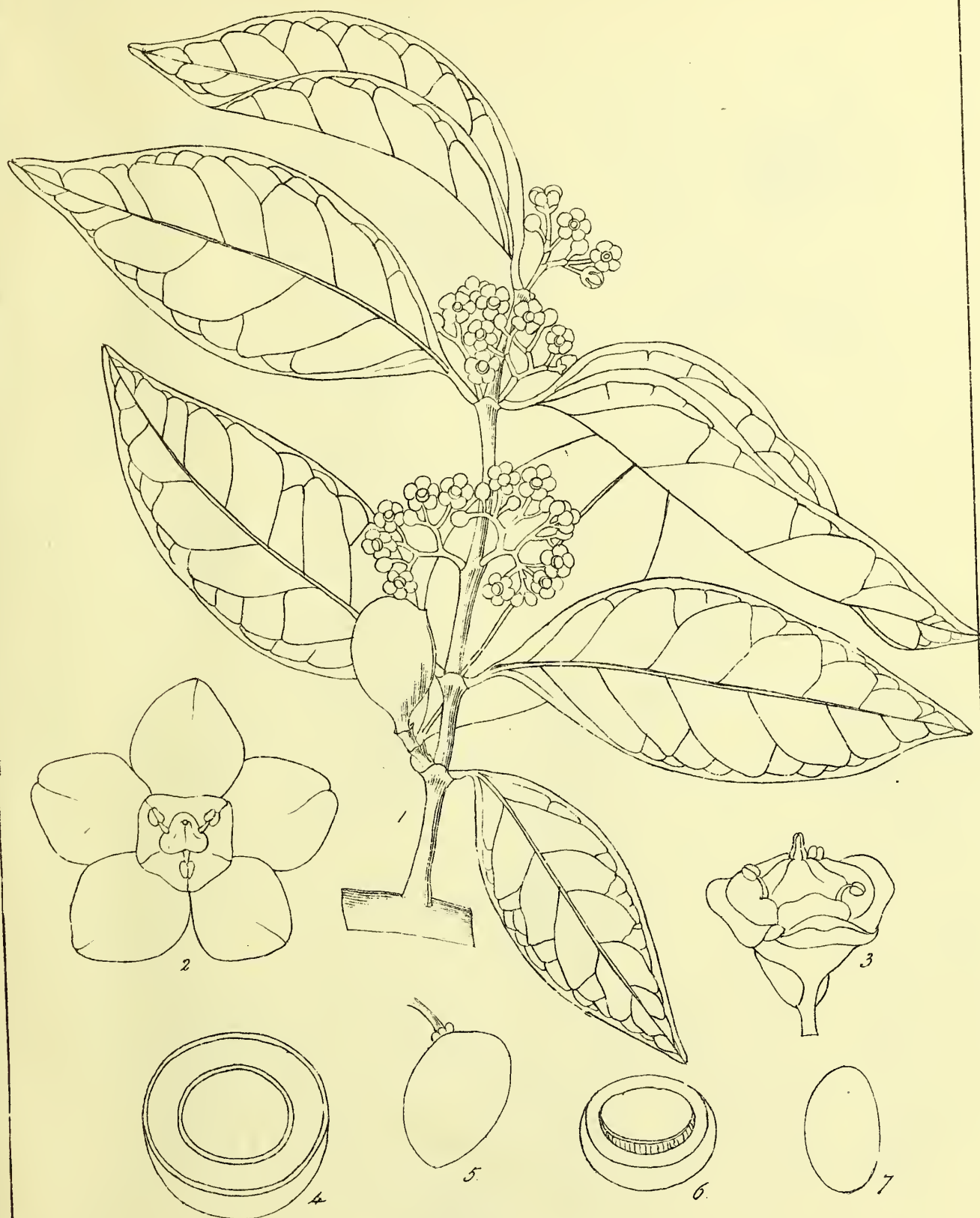
*Geophila del*

B. W. Leth

*Geophila reniformis* (Don.)

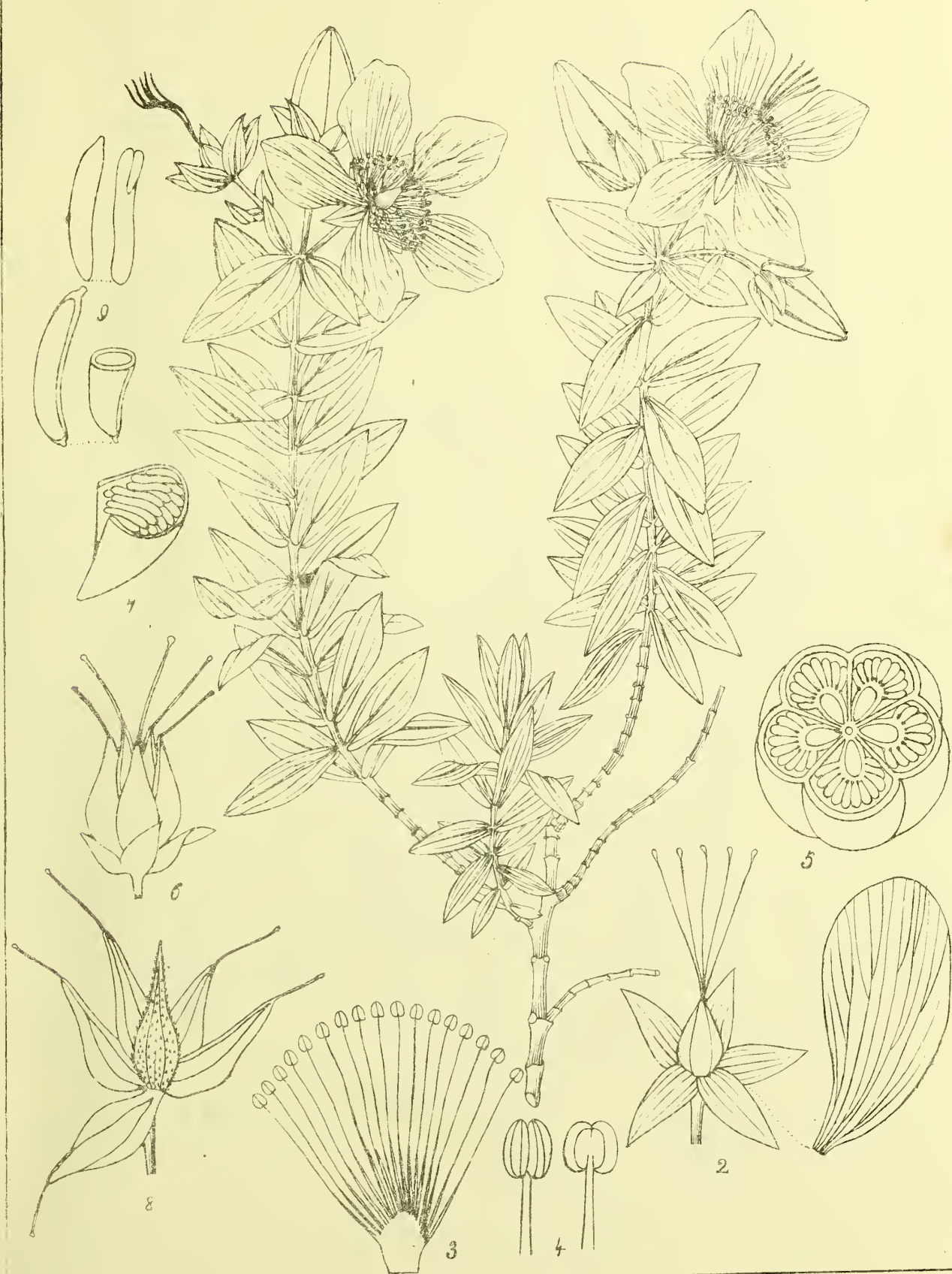






*Salacia pomifera* (Wall.)





*Hypericum mysurense* Arn  
*Hypericum mysurense*.





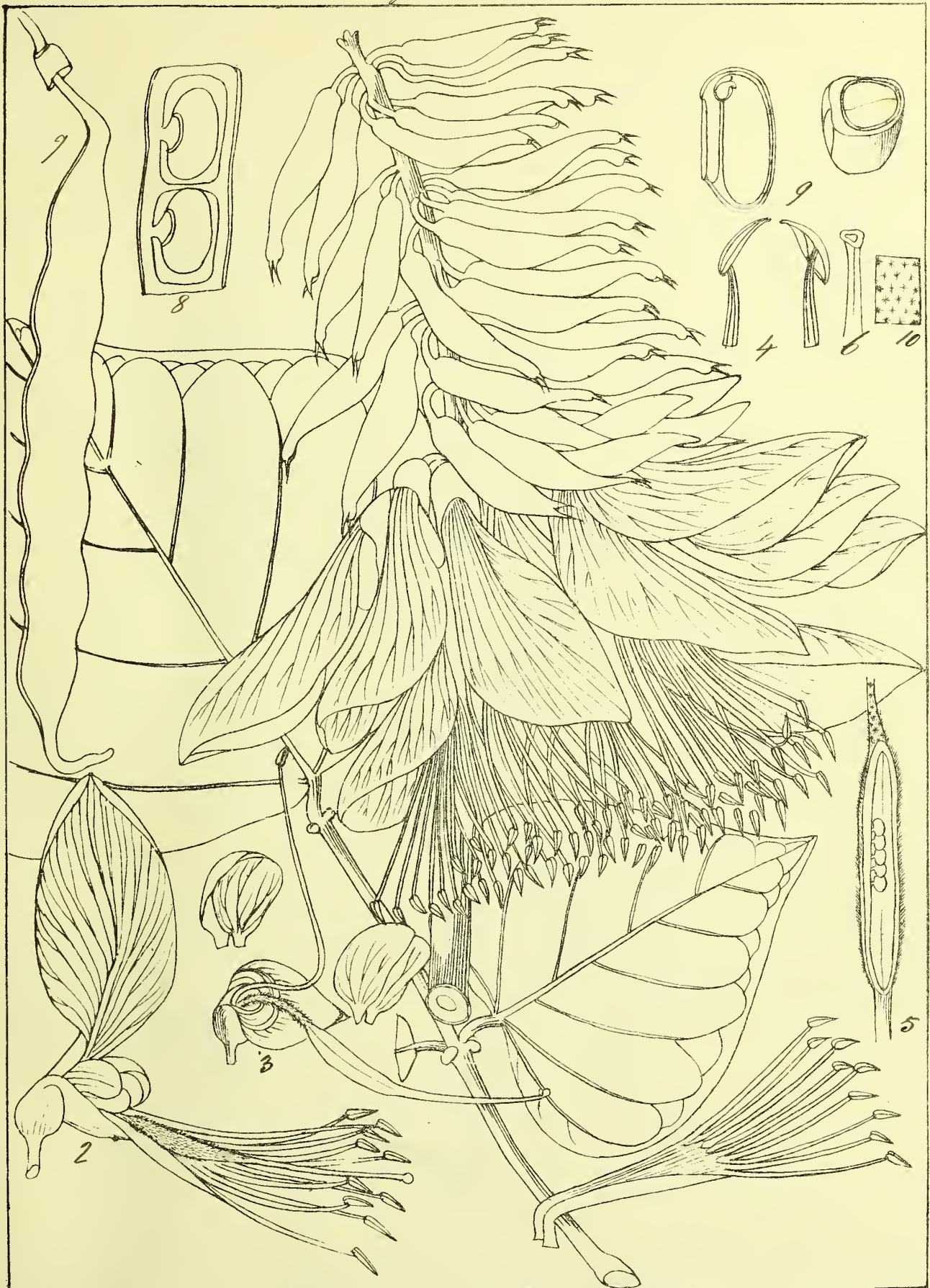


Rungia del  
 ଓଡ଼ିଆ ଶବ୍ଦମାନଙ୍କ  
 ଓଡ଼ିଆ ଶବ୍ଦମାନଙ୍କ  
 ଓଡ଼ିଆ ଶବ୍ଦମାନଙ୍କ  
 ଓଡ଼ିଆ ଶବ୍ଦମାନଙ୍କ

*Lathyrus vulgaris* (Savi.)

Dumfries. Pith  
 ଓଡ଼ିଆ ଶବ୍ଦମାନଙ୍କ  
 ଓଡ଼ିଆ ଶବ୍ଦମାନଙ୍କ





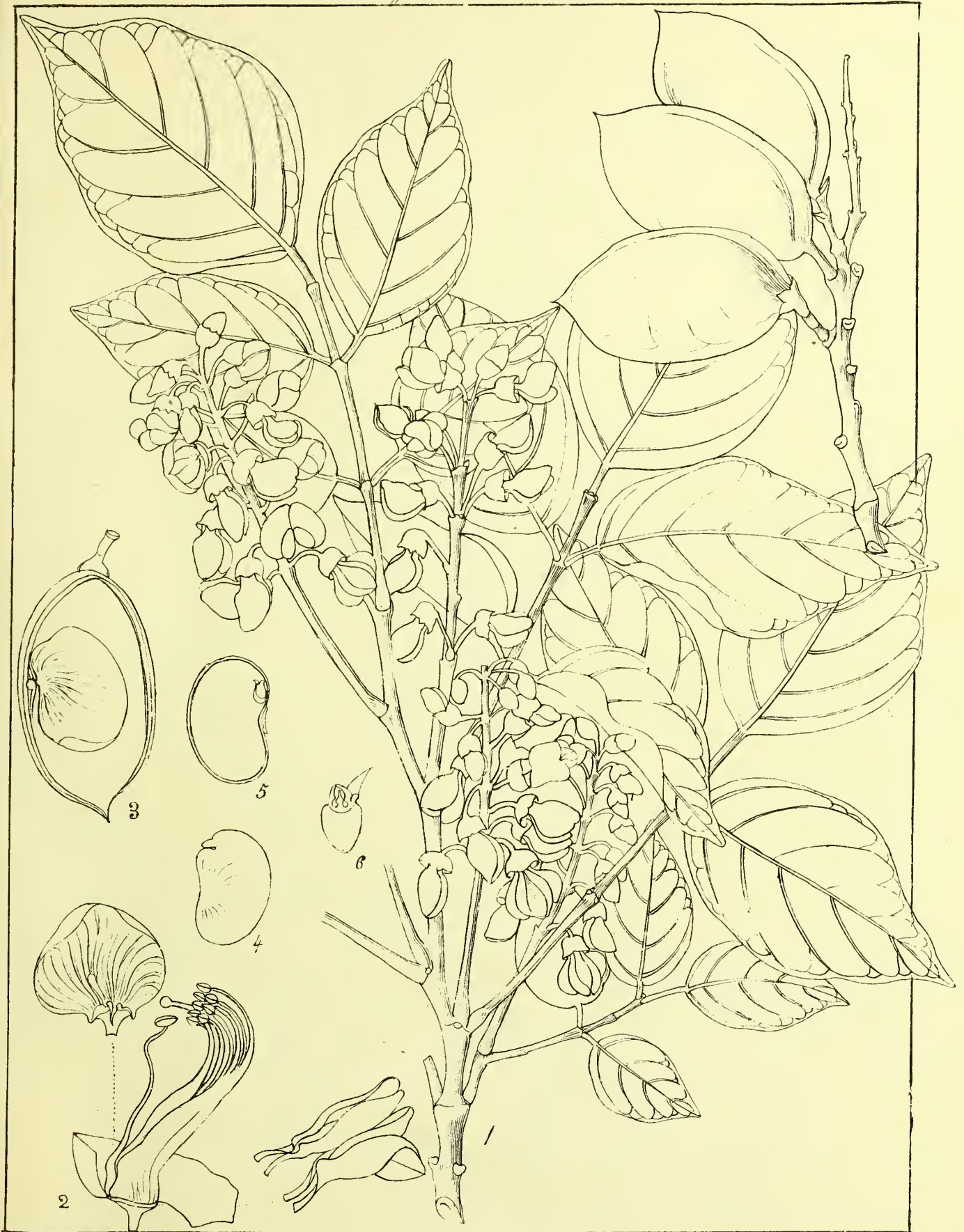
முருகுமரம் -  
Moorka-marum Tam  
Mundara - S

*Erythrina Indica* (Lam.)  
Moorka Tree, or Mootchie wood.

பாடகச்சு -  
Bhadesapa - Chittoor







*Pongia del*  
Lj. p. 6. L. 11. 4

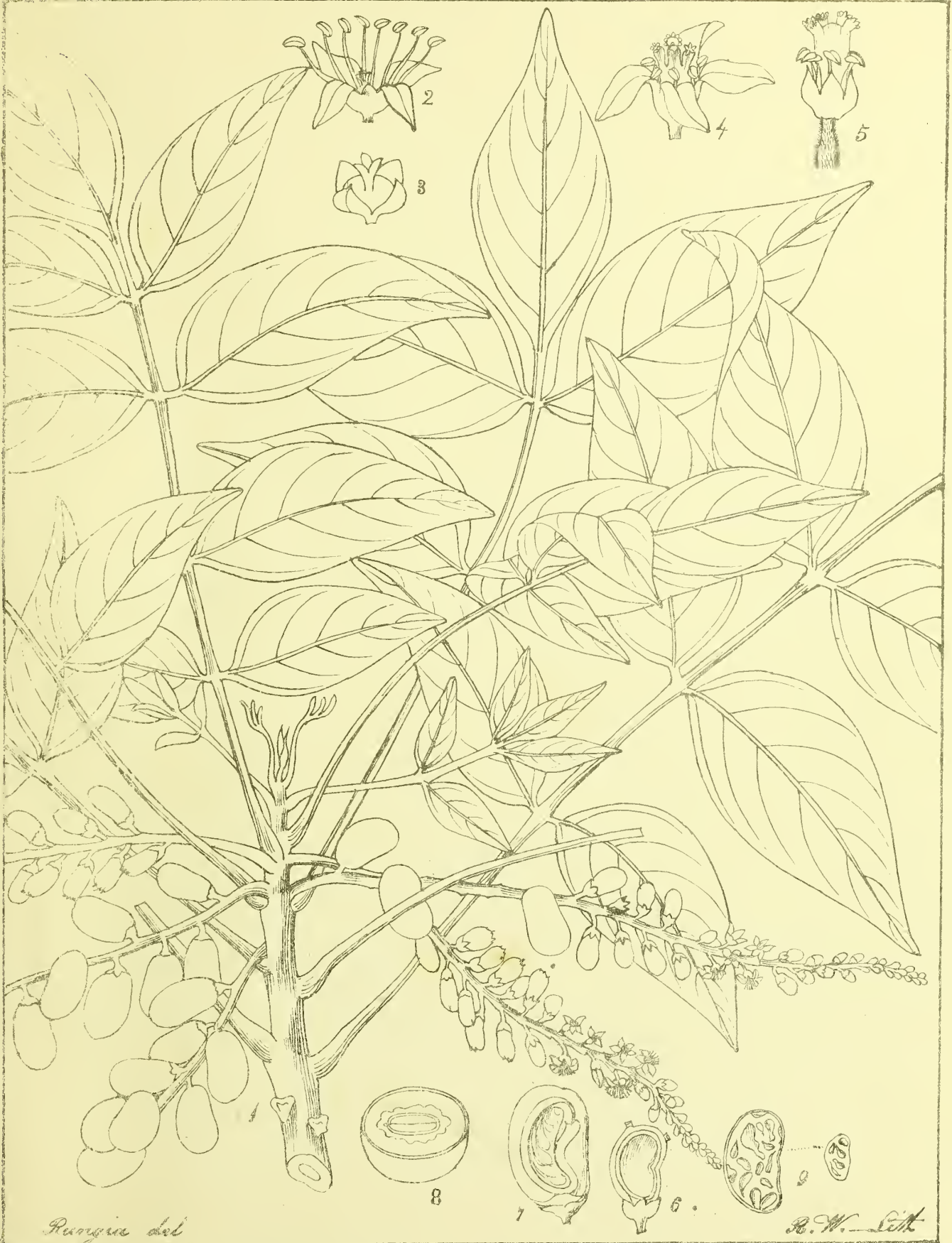
*Pongamia glabra* (Vent.)

*Pongia marum*. Lam.

Dumphy. Pitti  
ಕಂಪೆಂಟು

Kanaga-Maurio. Tel.





*Rangia del*

*Odina woderi* (Roxb.)

*Odina woderi* (Roxb.)

*Odina woderi* (Roxb.)

R.W. Litch

ಪ್ರತಿಭಾ ಪದಾಧಿ

*Odina woderi* (Roxb.)







For *Selerostylis atalantioides*, plate 71, read *S. parvifolia*, R. W.--  
For *Hymenodictyon*, plates 79 and 80, read *Hymenodictyon*.



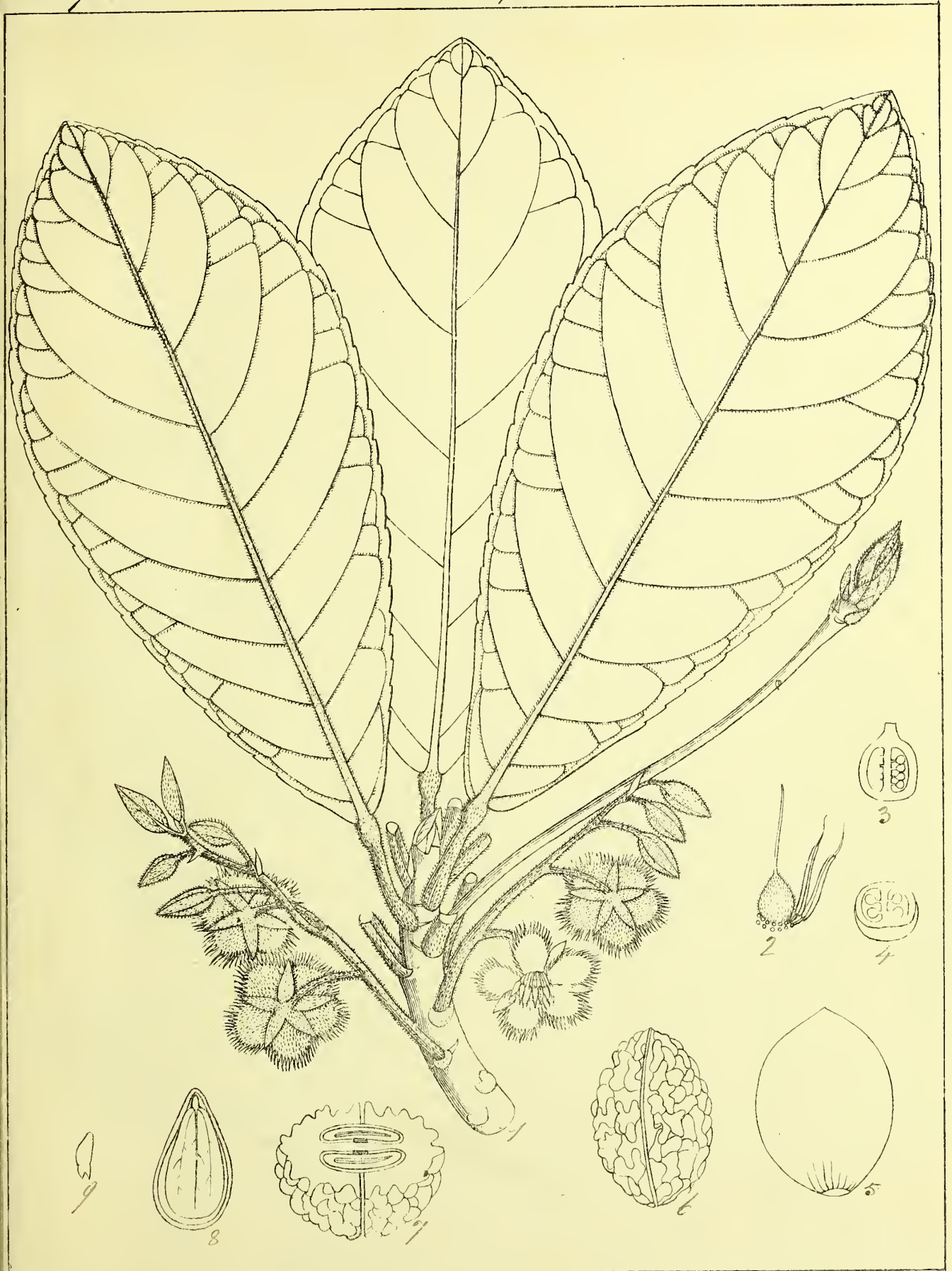


*Burm. jupias. B.*

*Monocera rugosa. R. W.*  
*Elaeocarpus rugosus. Roel.*

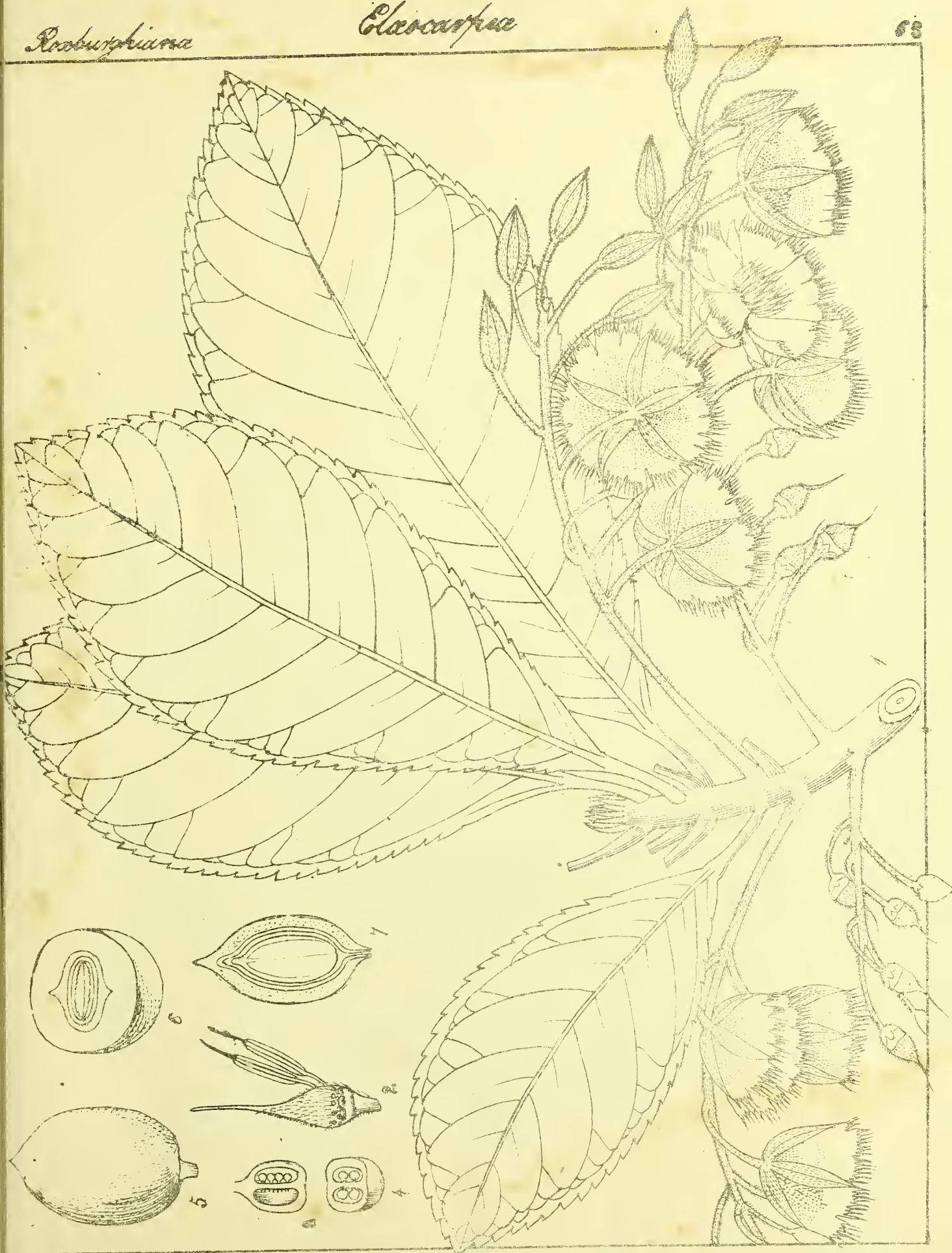






*Monocera tuberculata* W & A.  
*Elaeocarpus bilocularis*  
 slightly reduced.



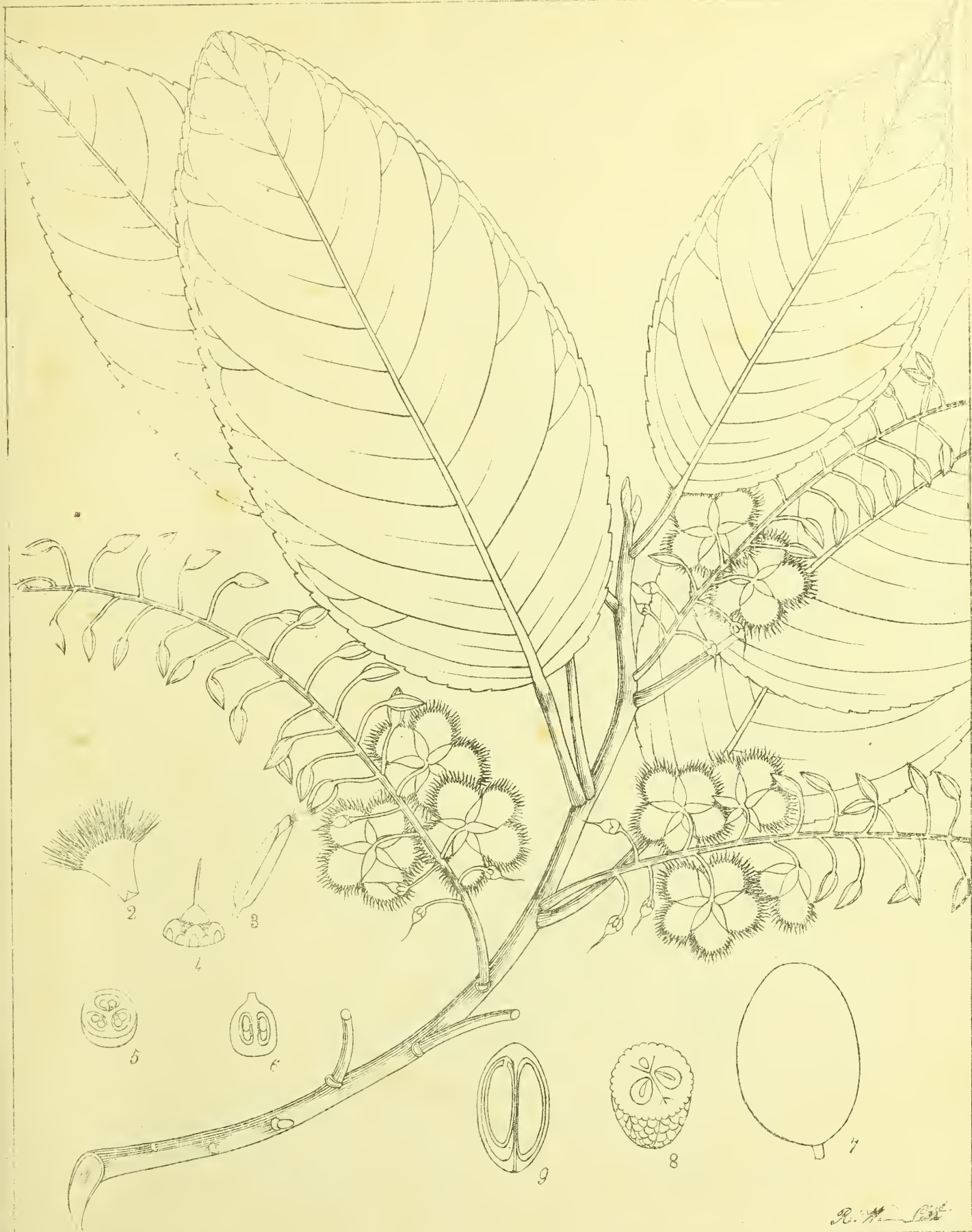






*Rooburghiana*

*Elacarpus*

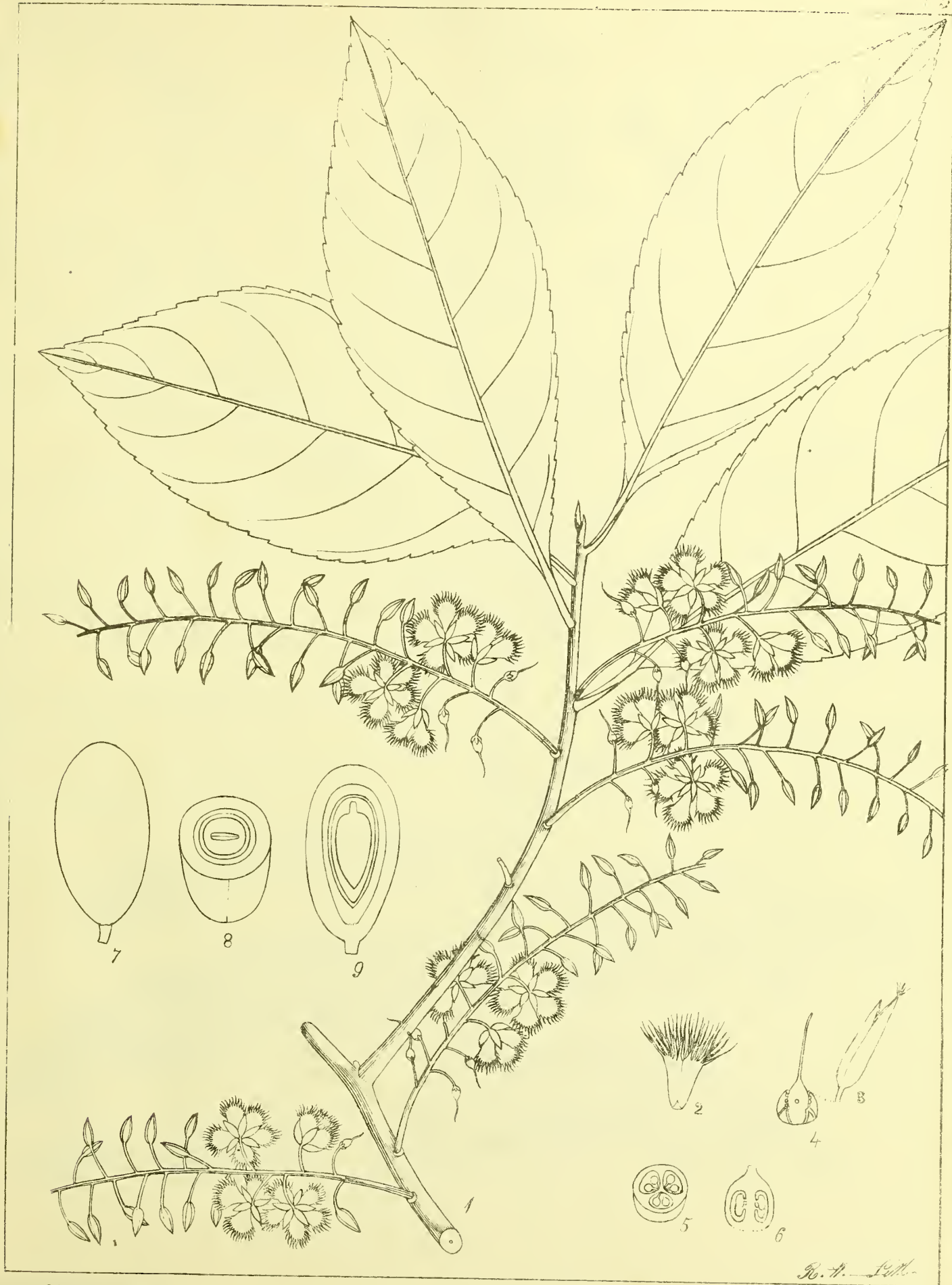


*R. W. Pitt*

*Dulhai. B.*

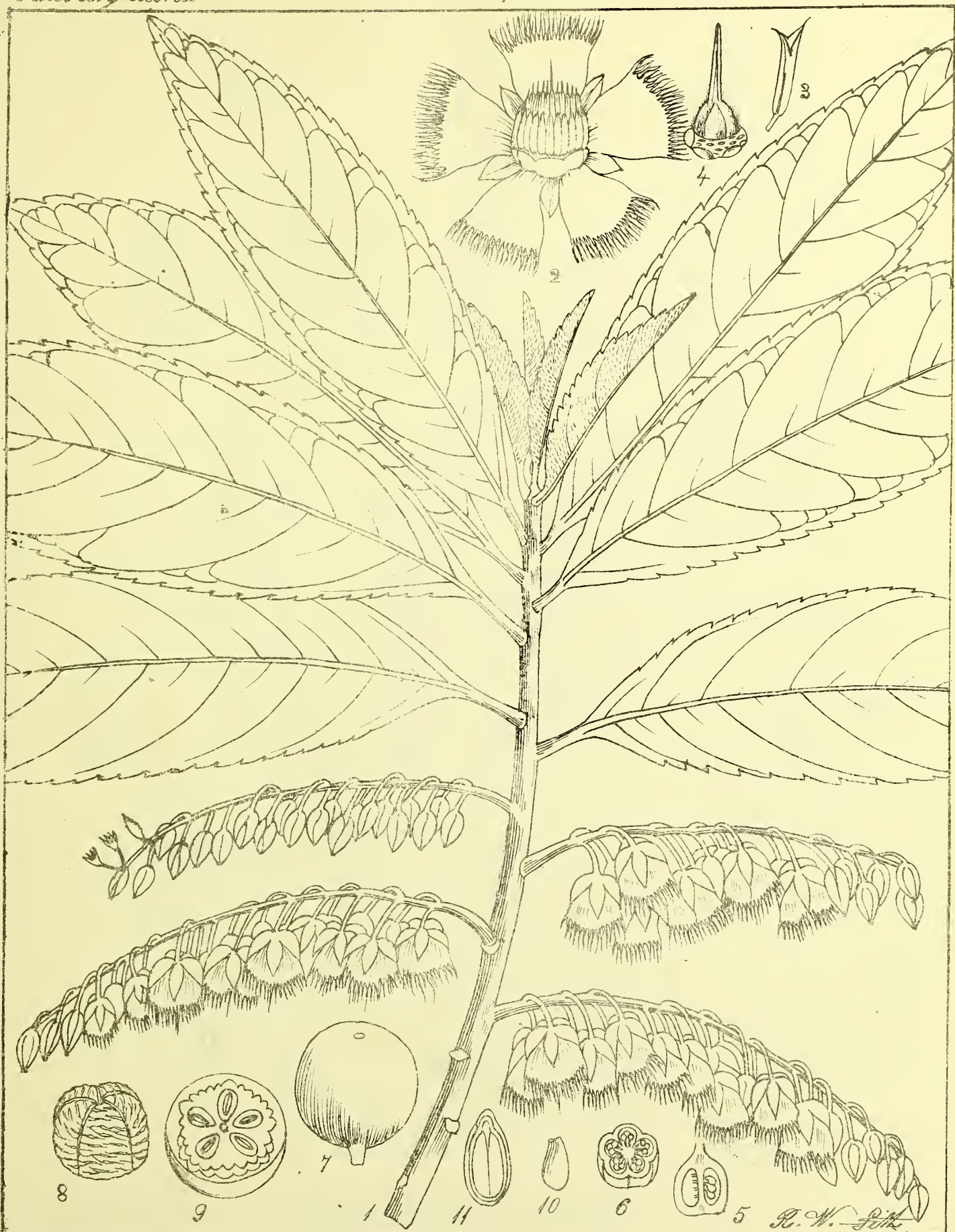
*Elacarpus robustus* Koel





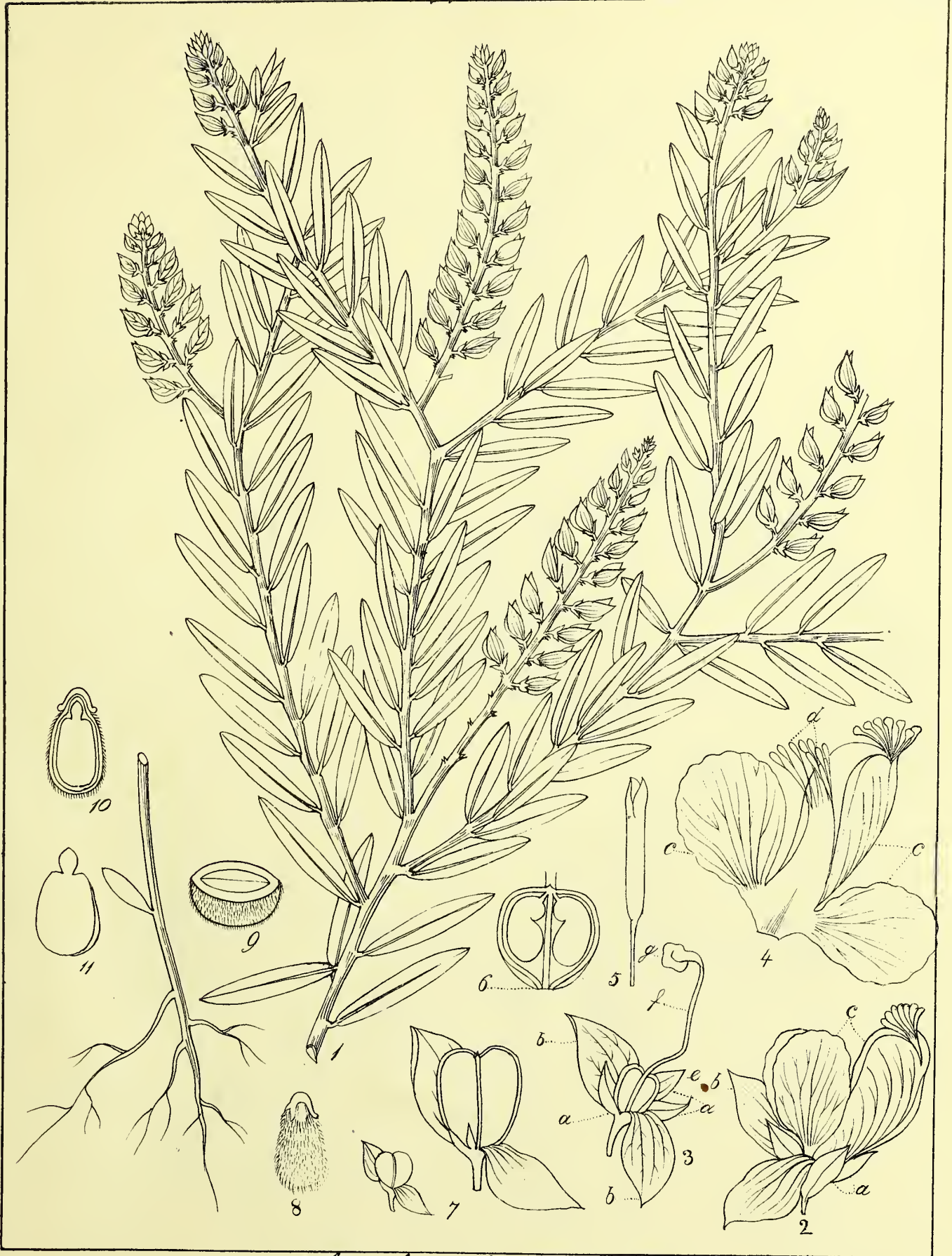










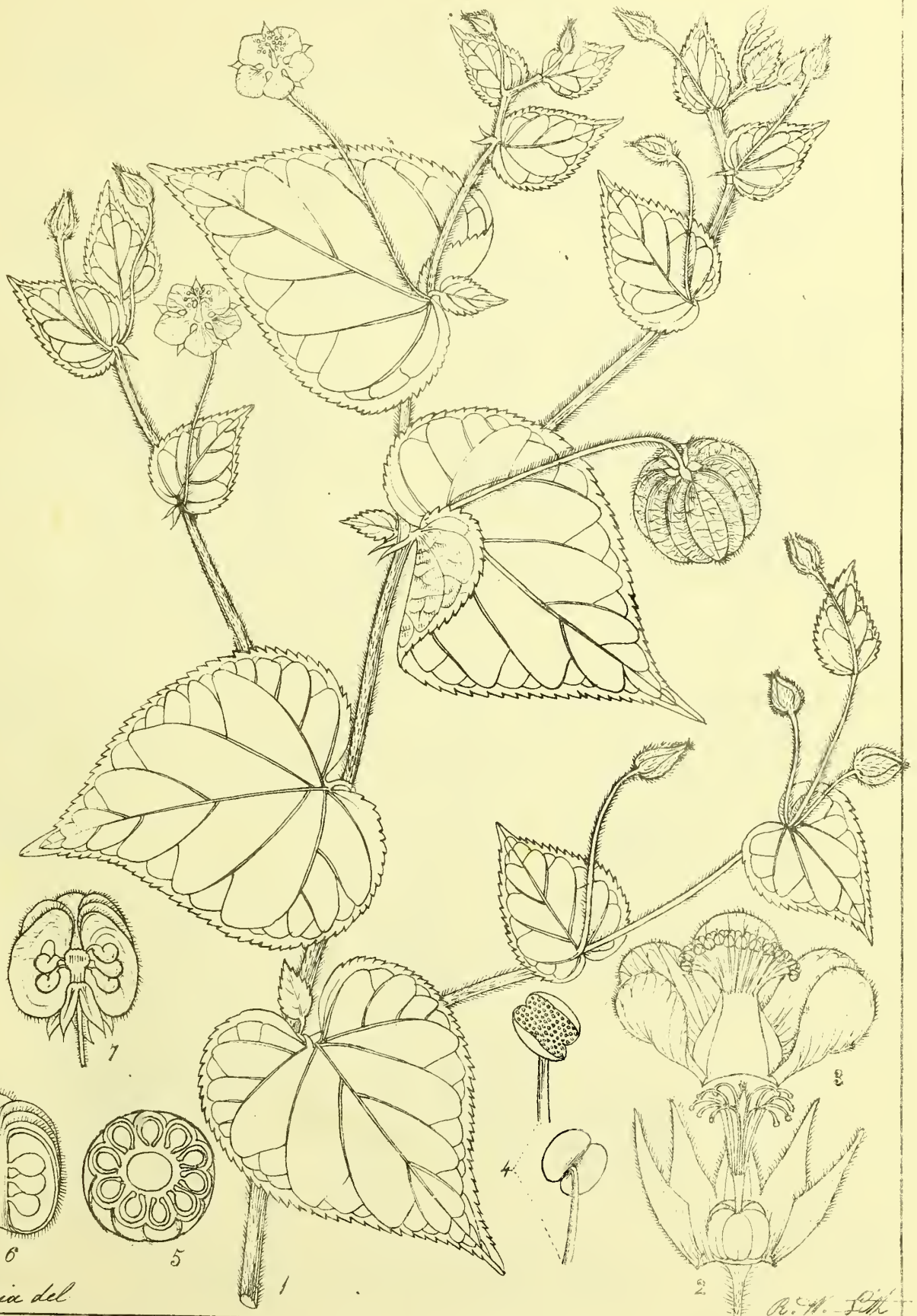


பெரியநங்கு  
Pariganungu - Tam!

*Polygala Wightiana* Watt.







*Rungia del*

*Abutilon crispum* (G. Don)



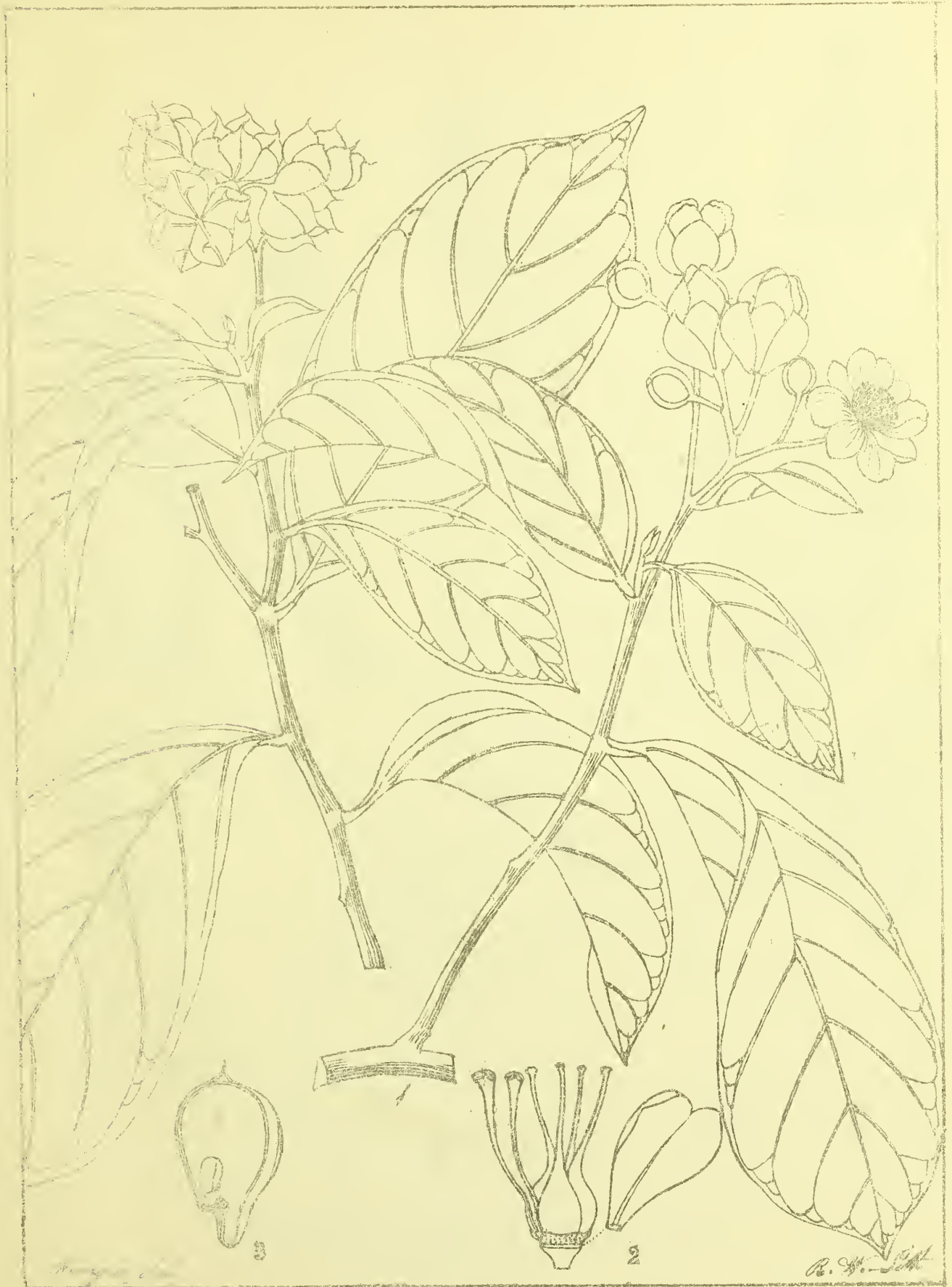


Rangiah del. *Lagerstromia parviflora* (Roxb.)  
Chinamangha. Del.

R. W. Pitt.

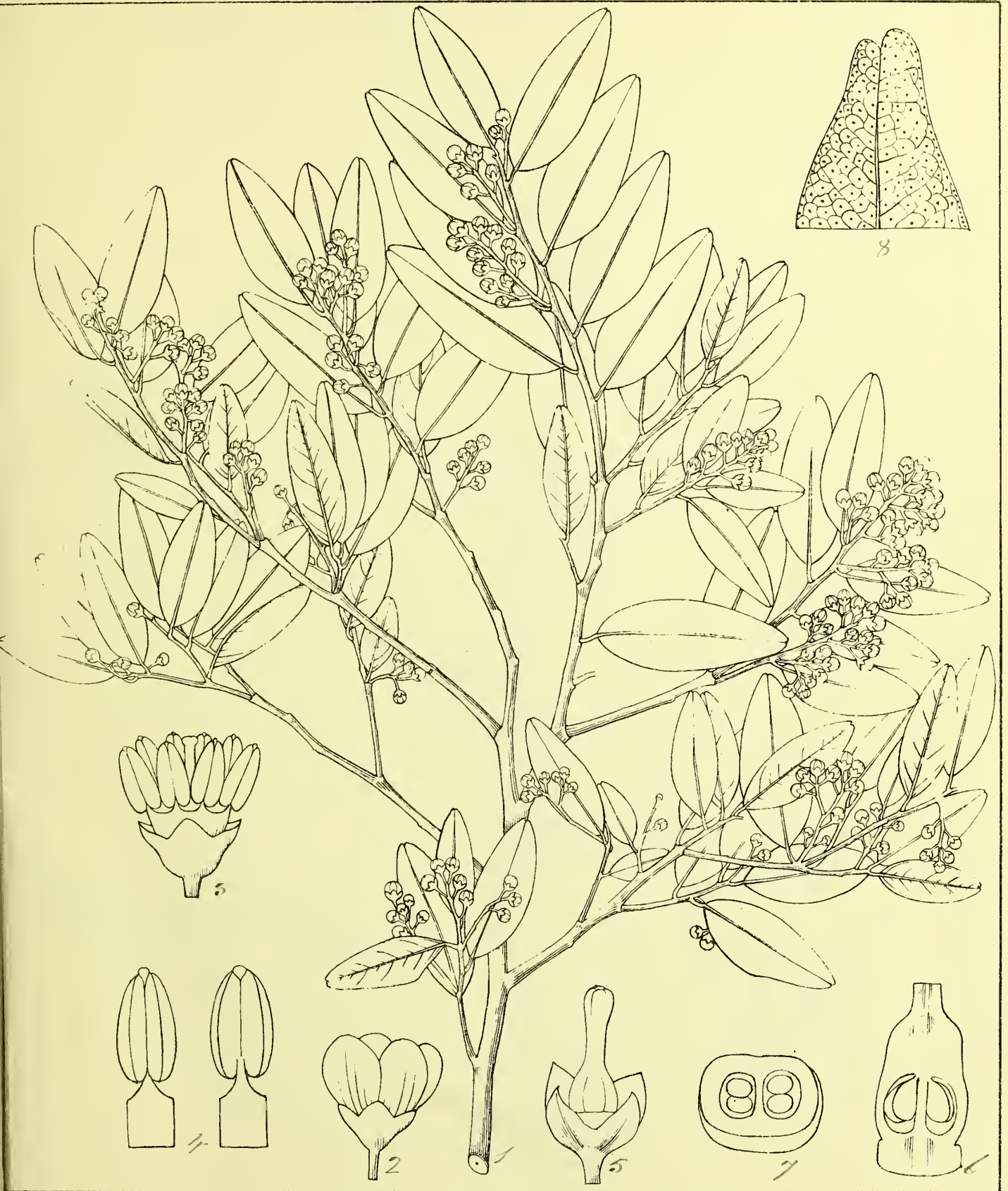






*Litsea Rhedii* (D.C.)





*Sclerostylus atalantioides* (W & A.)







*Sclerostylis Roxburghii* R. W.  
*Amyris simplicifolia* Roxb.

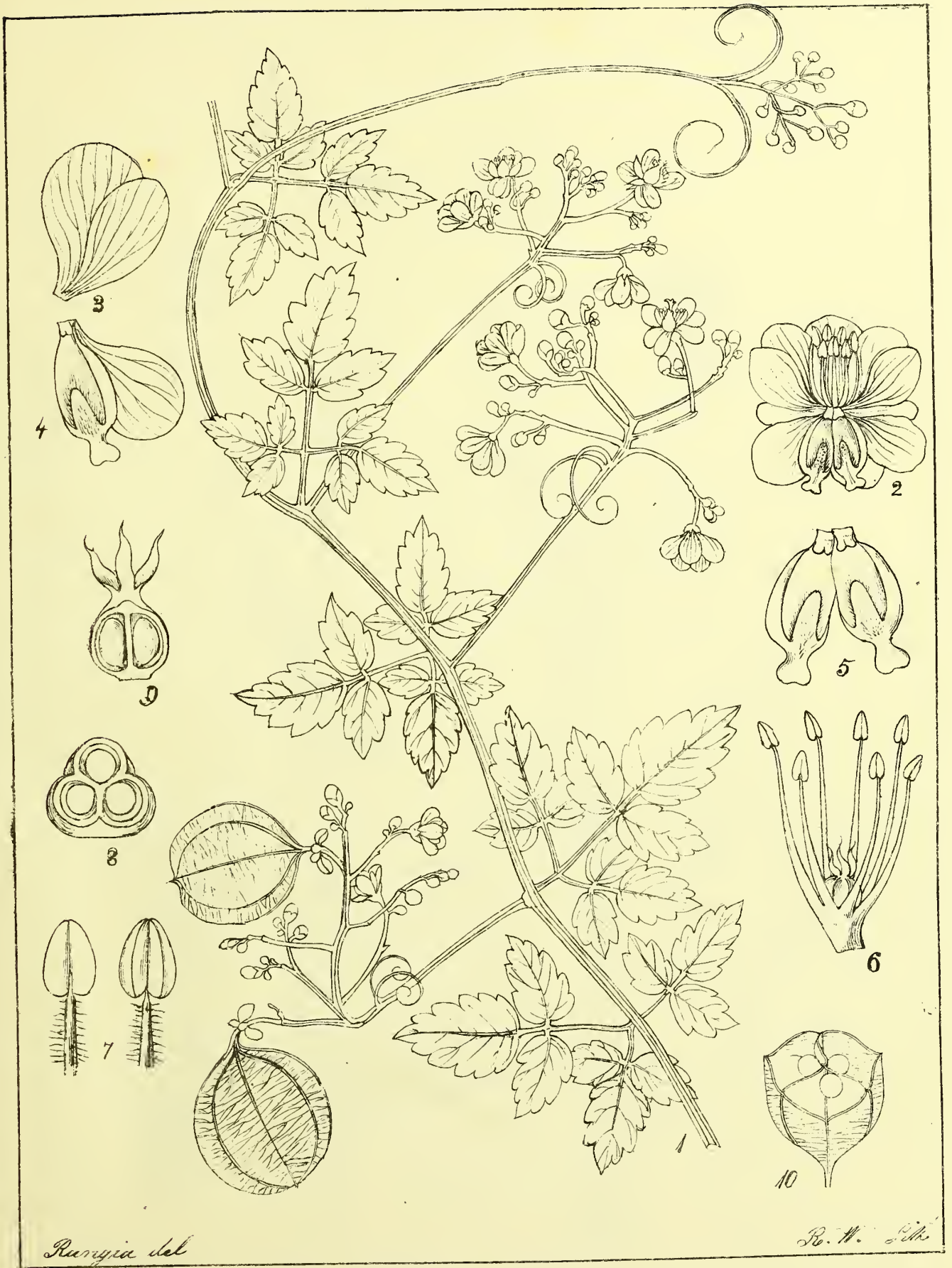




*Syzygium zeylanicum* (D.C.)







*Rungia del*

Re. W. Lili

Monde-collon. *Cardiospermum canescens* (Hall.) *Cardiospermum canescens* (Hall.)  
 4/2 6 54.2.1000. 20 50 50 50.



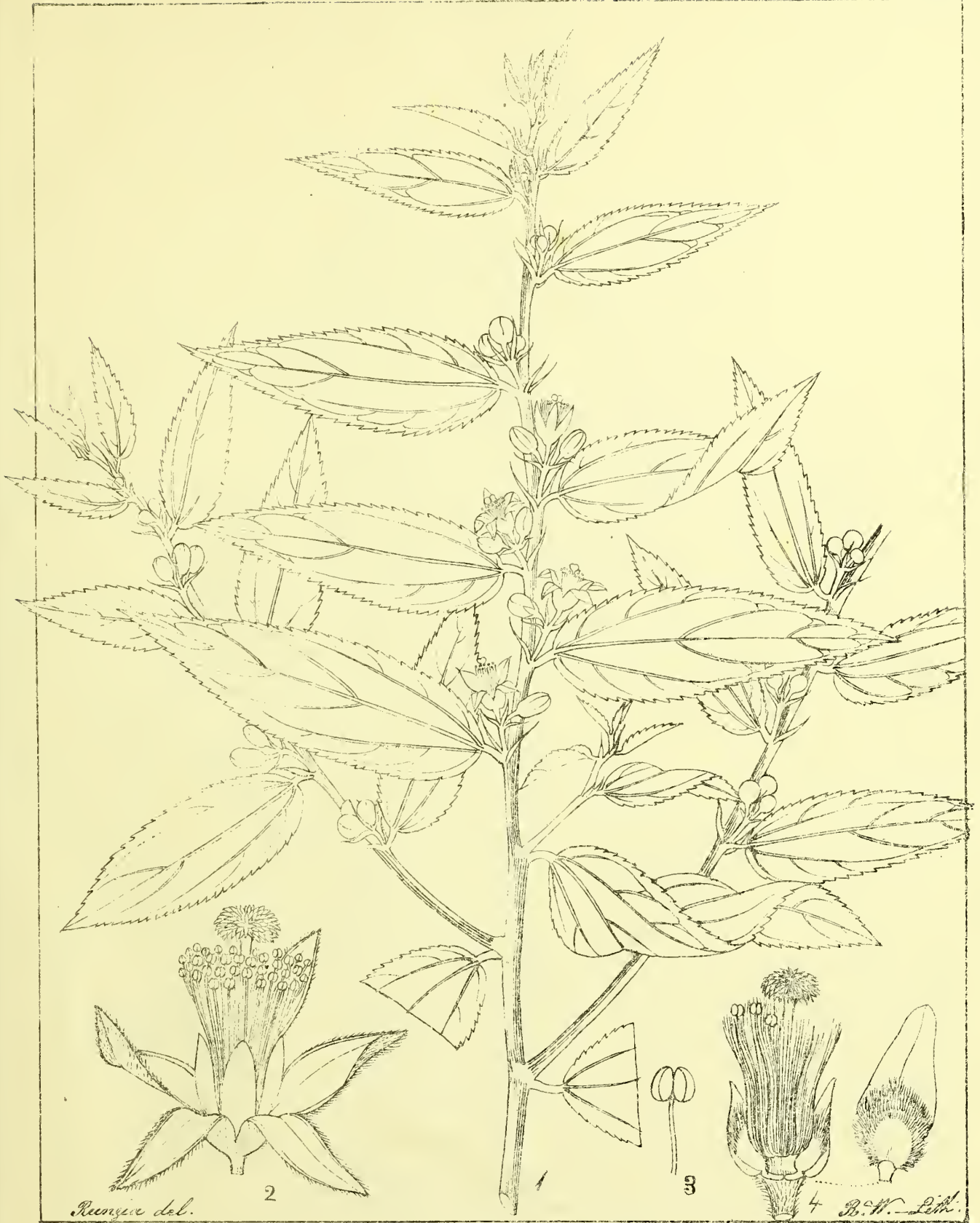


Ranunculus

*Ranunculus repens* (Hall.)







*Rungia* del.

2

3

4

B.W. Lith.

*Javelliki*. Sel.

*Grewia hirsuta* (Lohr.)





Ravaglia del.

J. R. W. Lill.

Calophyllum inophyllum (Linn.)  
Pinnay tree.  
Pinnay-Morisson. Tern.  
Pinnay-Morisson. M.  
Pinnay-Morisson. Sans.

Calophyllum inophyllum (Linn.)  
Pinnay tree.

Calophyllum inophyllum (Linn.)  
Pinnay tree.  
Pinnay-Morisson. Tern.  
Pinnay-Morisson. M.  
Pinnay-Morisson. Sans.







*Rungia del.*

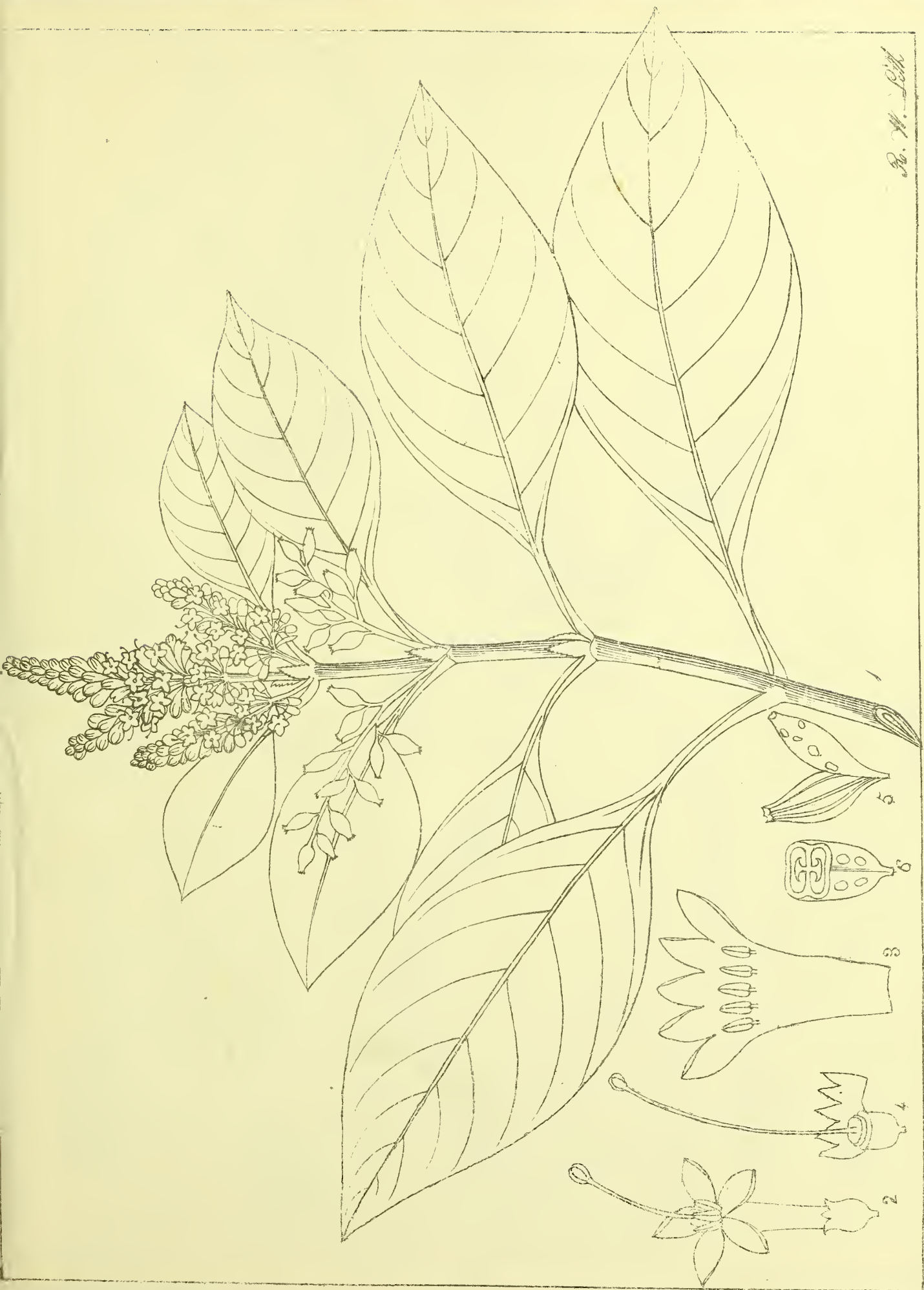
*R. W. Pitt.*

*Kookhoo-jeehuwa. W.*

*Leea Staphylea a (Roeb.)*

*Ancados. Seb.*





R. W. Lill

*Hymenodictyon exceduum* Willd.







*Hymenodyction obovatum* (Wall.)







## EXPLANATION OF PLATES.

81. *Buchanania intermedia* (R. W.) Leaves obovate, spatulate, membranaceous: panicles glabrous, flowers congested—Naggarie Hills, near Madras.

Intermediate between *B. latifolia* and *angustifolia*, having the obovate spatulate leaves of the former, but much smaller and not eoriaceous. In this last respect it also differs from the latter, as well as in the form of the leaves; which in *B. angustifolia*, are linear lanceolate, pointed.

1. A flowering branch, *natural size*—2. A flower—3. The same, the petals removed—4. Stamens—5. Sepals, petals, and stamens removed, the disk opened and partially thrown back to show the solitary fertile ovary, and four sterile pistils—6. The ovary opened, showing the ascending curved podosperm and solitary pendulous ovule, *all more or less magnified*.

82. *Grewia oppositifolia*, Buchanan.—“Arboreal: leaves rhomboid-ovate, gland-serrate, scabrous: peduncles, leaf opposed, 3-5 flowered: petals lanceolate: drupe 1-4 lobed: nuts (4) 1-celled.”—Roxb. Fl. Ind. 2 page 584.

1. Flowering branch, *natural size*—2. Sepal—3. Petal—4. Podocarp, ovary, style, stigma, and 4 stamens *in situ*—5. Ovary cut vertically—6. The same cut transversely—7. A nut full grown, with three aborted ones at the base—8. The same cut vertically—9. The seed dissected, showing the embryo *in situ*—*all more or less magnified*.

83. *Grewia ulnifolia*, Roxb. “Shrubby, scandent: leaves cuneate, oblong, serrate: umbels terminal: petals linear, entire: receptacle cylindric, with a pentagonal base.” Roxb. Fl. Ind. 2 page 591.

1. Flowering branch, *natural size*—2. A sepal—3. A petal—4. Pentagonal base, cylindrical podocarp, stamens *in situ*, ovary, style, and stigma—5. Ovary cut transversely, *all more or less magnified*.

84. *Grewia ulnifolia*, Roxb. *G. microcos*? Lin. “Shrubby, erect: leaves bifarious, broad lanceolate, serrate, acuminate: stipules simple: panicles terminal, petals retuse: drupe with a single bearded 3-celled nut.” Roxb. Fl. Ind. 2 page 591.

Flowering branch, *natural size*—1. Sepal—2. Petal—3. Podocarp, stamens, ovary, style, and stigma—4. The latter more magnified, showing it 3-lobed at the apex—5. Ovary cut vertically—6. The same cut transversely—7. A full grown fruit—8. Drupe bearded—9. The same cut transversely—10. The seed dissected showing the embryo, *all more or less magnified*.

85. *Flacourtia Ramouchi*—1. Female—flowering branch, *natural size*—2. Female flower—3. A young fruit cut transversely—4. Male—flowering branch, *natural size*.

86. *Millettia piscidia* (*Galedupa piscidia* Roxb.) “Arboreal, smooth: leaflets 3-5, lanceolate: the pairs opposite, racemes axillary and terminal, simple or ramous: filaments single and 9-cleft”—(calyx campanulate 5-lobed, flowers paired white).

1. Flowering branch, *natural size*—2. A dissected flower—3. A mature legume opened to show the abortion of part of the seeds—4. A seed.

87. *Dalbergia marginata*, Roxb. “Scandent, scabrous: leaflets 5-7 lanceolate, glossy, obtusely acuminate: panicle axillary, stamina 1 and 9; legumes sublinear, membrane margined, 1-seeded.” Roxb.

1. A flowering branch with young legumes—2. A legume opened to show the solitary seed.

88. *Decaschistia trilobata*, R. W. Herbaceous, tomentose: leaves deeply 3-lobed, slightly dentato-serrate on the margin: stipules subulate, longer than the petioles. “Belgum, towards the foot of the ghauts, flowering in October”—J. Law, Esq.

I am indebted to Mr. Law, B. C. S for this, and two other, interesting new species figured in this number.

1. Flowering shoot, *natural size*—2. Staminal tube laid open—3. Anthers back and front views showing them 1-celled—4. Ovary, style, and stigmas, the calyx and involucre opened and thrown back to bring them into view—5-6. Ovary cut vertically and transversely—7. A nearly mature fruit—8. The same cut vertically—9. The same cut transversely—10. A carpel opened to show the seed *in situ*, *all more or less magnified*.

89. *Grewia sclerophylla*, Roxb. MSS.—*G. scabrophylla*, Roxb. Fl. Ind.—Obs. I adopt the original name as it seems probable the other is a misprint.

“Shrubby, leaves round, cordate, serrate, rugose, above scabrous, underneath downy; peduncles axillary, 2-3 flowered; drupes round; nuts 4, 1-celled, 1-seeded.” Roxb. Fl. Ind. 2 page 584.

1. Flowering branch—2. Ovary with stamens *in situ*—3. A sepal—4. A petal—5. Ovary cut vertically—6. The same divided transversely—7. A full grown fruit—8. The same cut transversely—9. Cut vertically, showing a nut *in situ*—10. A seed dissected to show the embryo.

90. *Naregamia alata*, the entire plant, a rather small specimen, *natural size*—2. A flower showing the petals and staminal tube—3. Calyx, ovary, style, and stigma—4. Anthers back and front views—5. The ovary cut transversely, showing its 3 cells and 2 collateral ovules in each—6. The same cut vertically—7. A ripe capsule, the 3 valves opened showing the seed *in situ*—8. A seed—9. The same cut transversely—10. Cut vertically, *all more or less magnified*.

## MUNRONIA, R. W.

Calyx 5, rarely 4-cleft. Petals 5, cohering at the base, with the staminal tube. Anthers 10, attached to the apex of a slender funnel-shaped tube, alternate with its teeth, exerted. A tube sheathing the ovary and base of the style. Ovary 5-celled, cells 2-ovuled ranged round a thick central placenta. Ovules superposed. Style filiform, stigma discoid—capitate. Capsule 5-valved, valves septiferous, loculicidal. Seeds by abortion about 5, attached to a large pyramidal persistent placenta. Embryo enclosed in a thin fleshy albumen. Cotyledons foliaceous, radicle pointed remote from the hilum, projecting. Small erect shrubs, with the leaves congregated near the summit. Leaves pinnate: leaflets one or several pairs opposite, glabrous. Peduncles axillary, one or several flowered, flowers white, sometimes fragrant.

This genus which I have named in honor of my zealous and enterprising friend, Lieut. Munro, H. M. 39th Foot, is most nearly allied to *Naregamia*, but abundantly distinct and readily distinguished by its 5, not 3-celled ovary, and its superposed not collateral ovules. A more perfect account of the genus will be given under *Meliaceae* in my illustrations.

91. *Munronia pumila*, R. W. (*Melia pumila*, Moon's catalogue). Leaves 3 foliolate, the terminal one much larger.

1. Plant, a small specimen, *natural size*—2. A dissected flower, the sepals and petals removed, and the staminal tube laid open to show the sheath of the ovary—3. Pedicel, bractæ and calyx—4. Petals and staminal tube removed to show the ovary—5. Ovary cut vertically—6. Cut transversely—7. Capsule burst, the lobes deflexed, showing the central placenta after the fall of the seed, *natural size*—8. The same magnified, showing more clearly the obovate form of the valves—9. A seed—10. The same cut vertically showing the inverted embryo—11. Embryo removed. *With the exceptions mentioned, all more or less magnified*.

92. *Alysicarpus Belgauensis*—Calyx deeply 4-cleft, upper segment bifid, joints of the legume compressed irregularly, reticulated, pubescent, leaves 3 foliolate—the terminal leaflet much the largest.

*Rham. ghaut*, Belgam—Flowers in September—Communicated by J. S. Law, Esq. Bombay Civil Service.

1. Flowering extremity of the branch, *natural size*—2. A flower opened—3. The same, petals removed to show the calyx and stamens—4. Keel, and wing petals—5. Vexillum—6. Stamens—7. Anthers—8. Ovary split open to show the ovules—9. A legume, *natural size*—10. The same magnified—11. A seed.

93. *Atylosia Lawii*, R. W.—Shrubby, erect, tomentose, leaflets obovate about the length of the petioles; flowers axillary, solitary, drooping, peduncles shorter than the petioles, legumes short, 2-seeded, concealed within, the persistent corolla, pubescent.

A very distinct species, readily distinguished by its bushy habit and numerous short pedicelled yellow flowers.

Belgum, on the top of the ghauts flowering in January.—Communicated along with the preceding and many other novelties, by J. S. Law, Esq. Bombay Civil Service, to whom I dedicate the species.

1. Flowering plant, *natural size*—2. A dissected flower—3. Anthers—4. The legume, the withered corolla by which it was concealed drawn aside—5. The same removed—6. A seed—*all more or less magnified*.

94. *Phasiolus trilobus*—1. Flowering branch, *natural size*—2. A dissected flower—3. Anthers—4. Ovary—5. Legume, *natural size*, opened to show the seed—6. A seed. *All with the exceptions mentioned, more or less magnified*.

95. *Sida acula*—1. Flowering branch, *natural size*—2. Calyx, ovary, styles, and stigmas—3. Staminal tube laid open—4. Anthers—5. Ovary cut transversely—6. Capsule enclosed in the persistent calyx, *natural size*—7. The same, the calyx thrown back—8. The same cut transversely—9. Cut vertically—10. A seed. *With the exceptions mentioned, all more or less magnified*.

96. *Murraya exotica*—1. A flowering branch, *natural size*—2. A flower, petals removed to show the stamens, &c.—3. Ovary, style, and stigma—4. Anthers—5. Ovary cut vertically—6. Transversely—7. A full grown fruit, *natural size*—8. The same cut to show the position of the seed—9. A seed cut transversely. *All, except the fruit, more or less magnified*.

97. *Salacia oblonga*—(*Sethia* by mistake)—1. Flowering branch, *natural size*—2. A flower and bud—3. A dissected flower—4. The same, the sepals and petals removed, showing the dilated base of the filaments sheathing the ovary, and the 2-celled anthers—5. Ovary cut transversely, *all more or less magnified*—6. A full grown fruit—7. The same cut transversely—8. A seed, *all natural size*.

98. *Tribulus lanuginosus*—A small plant, *natural size*—1. A flower—2. The same, the petals removed to show more clearly the stamens, ovary and stigma—3. Anthers—4. Ovary, style, and stigma—5. The same cut transversely—6. Vertically—7. A mature fruit, *natural size*—8. The same cut transversely showing its 5 carpels—9. Cut vertically showing the 4 superposed seed of each carpel—10. A carpel removed—11. The same cut transversely just above the prickles—12. A seed removed—13 and 14. Different sections of the seed, *with the exceptions mentioned, all more or less magnified*.

99. *Zizyphus jujuba*—1. Flowering branch, *natural size*—2. An expanded flower seen from above—3. The same seen from below—4. Stamens—5. A stamen and petal—6. A young fruit cut transversely—7. The same cut vertically—8. A full grown fruit—9. A nut removed from the sarcocarp—10. A seed—11. The same cut transversely—12. The embryo removed, *all more or less magnified*.

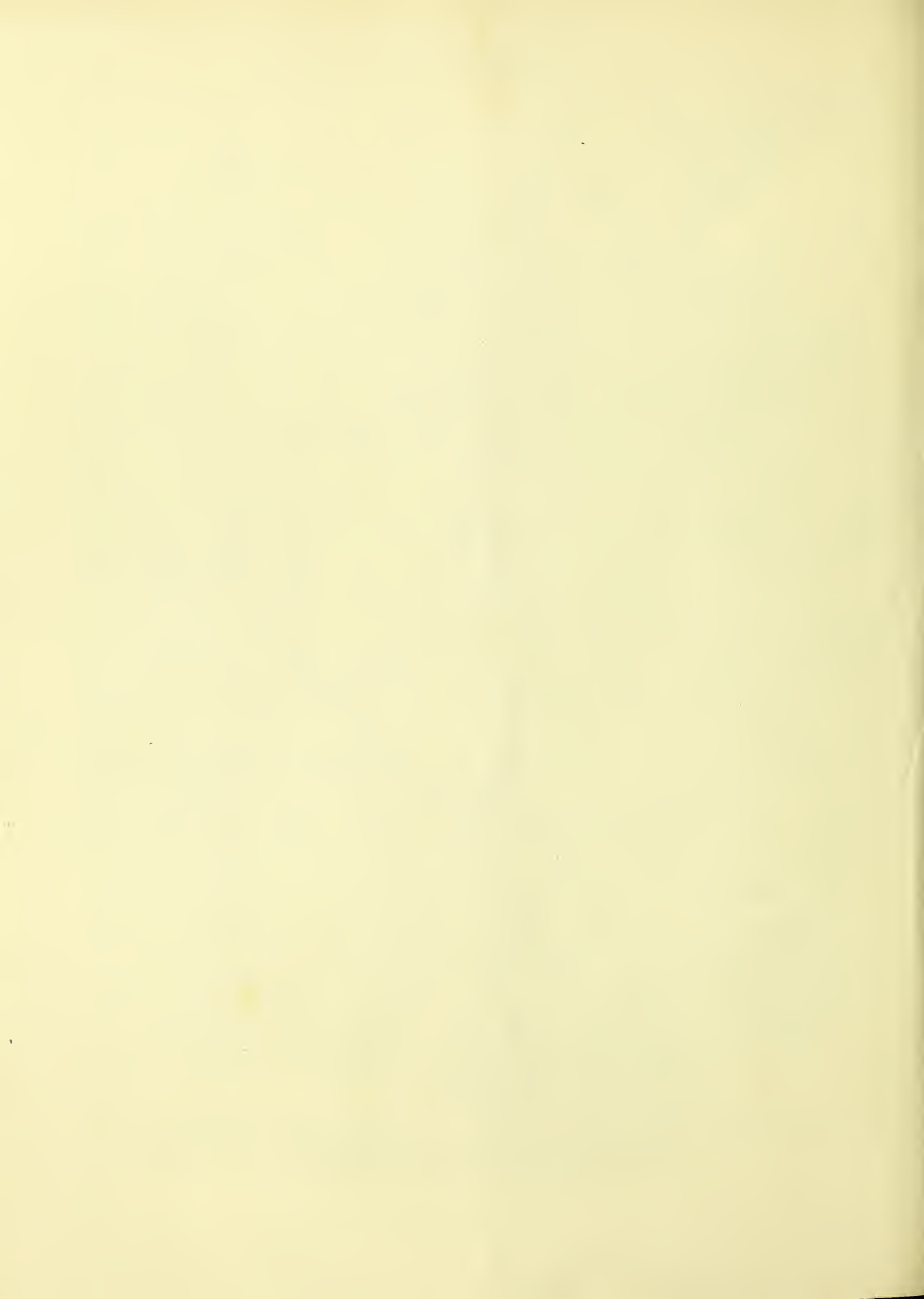
100. *Eugenia Rollieriana*—1. A flowering branch, *natural size*—2. A dissected flower, *magnified*.

## ERRATUM.

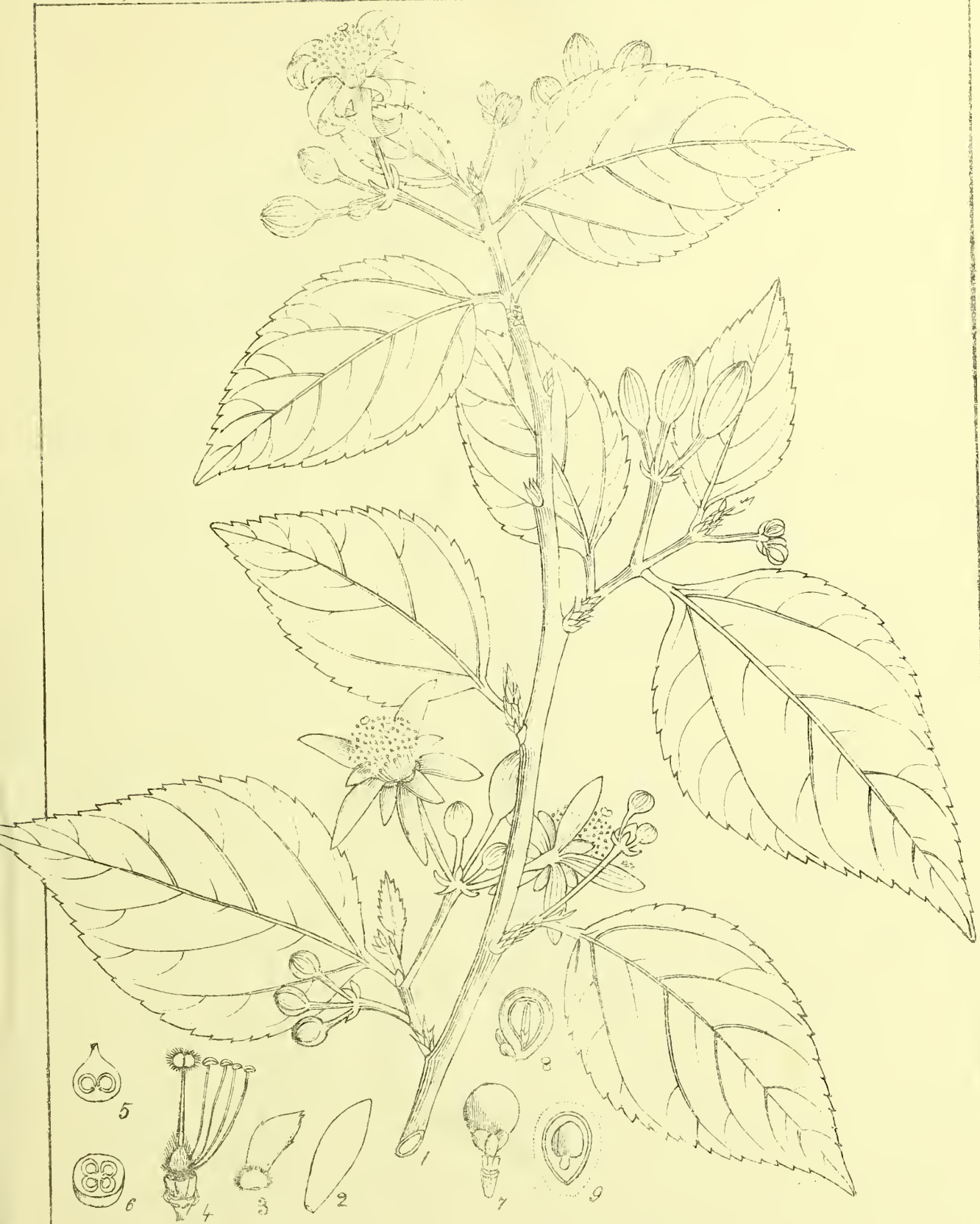
Plate 97, for *Sethia* read *Salacia*.



*Buchanania intermedia* R.W.





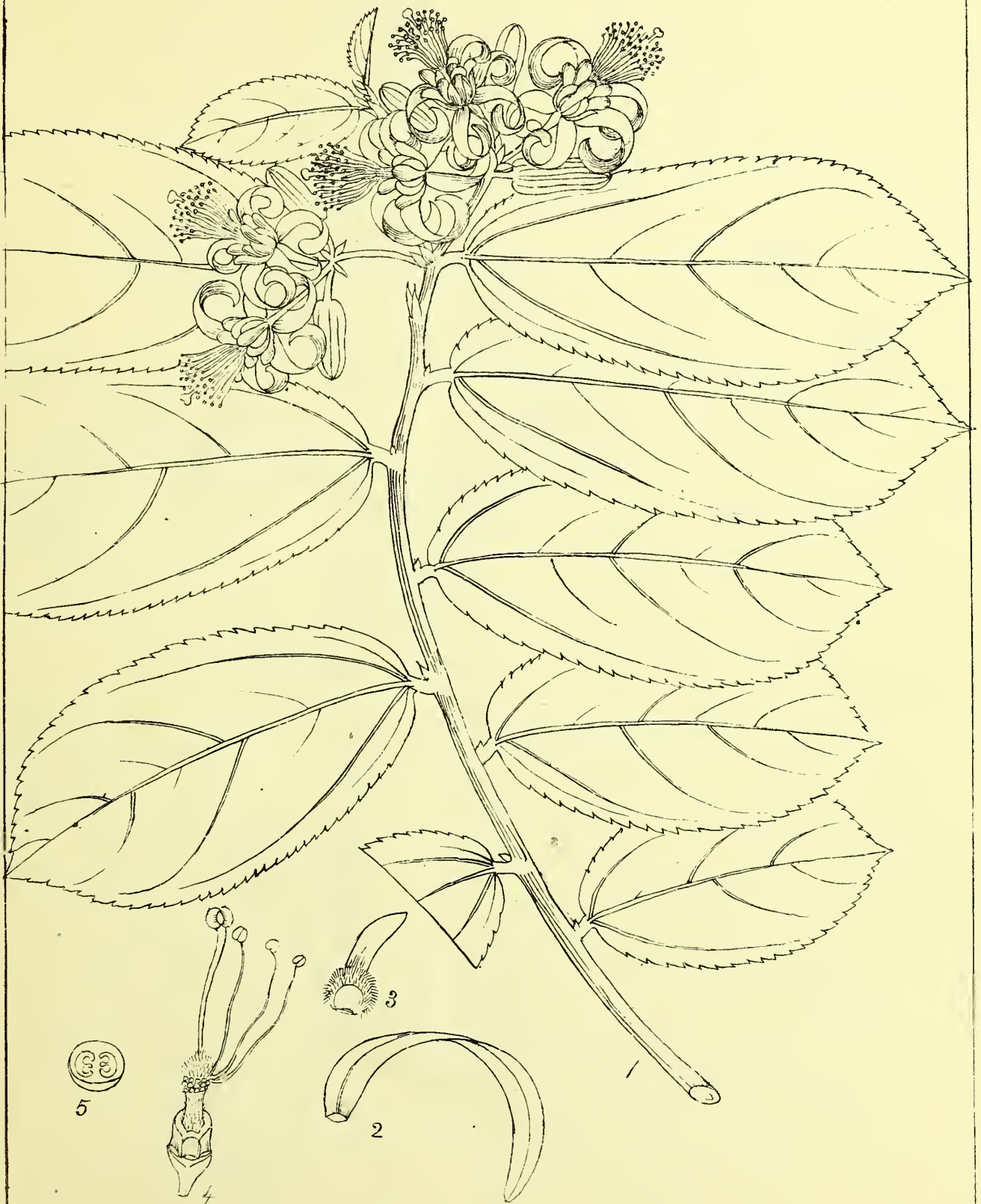


*Grewia oppositifolia* Buch

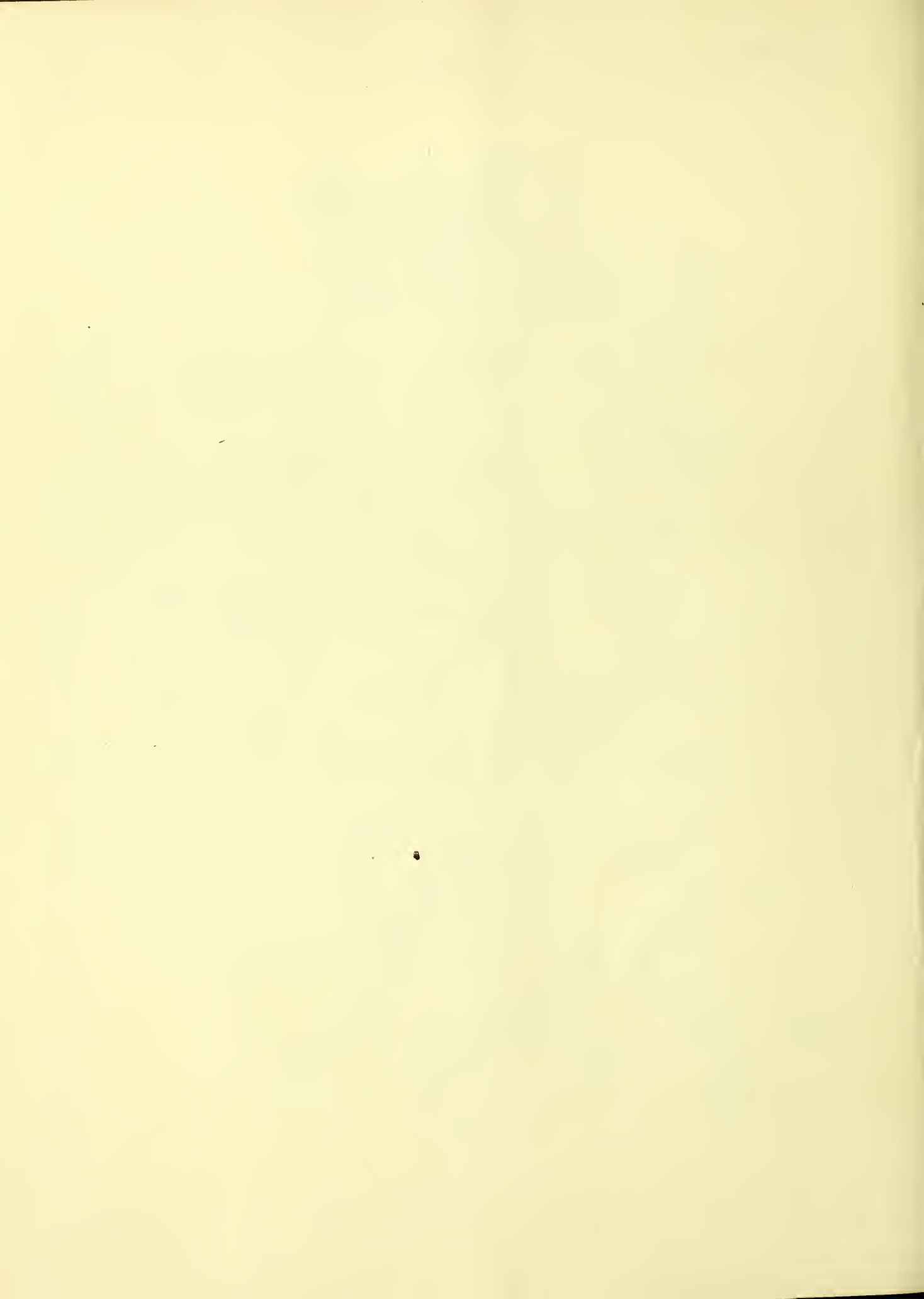
B. W. Pitt.

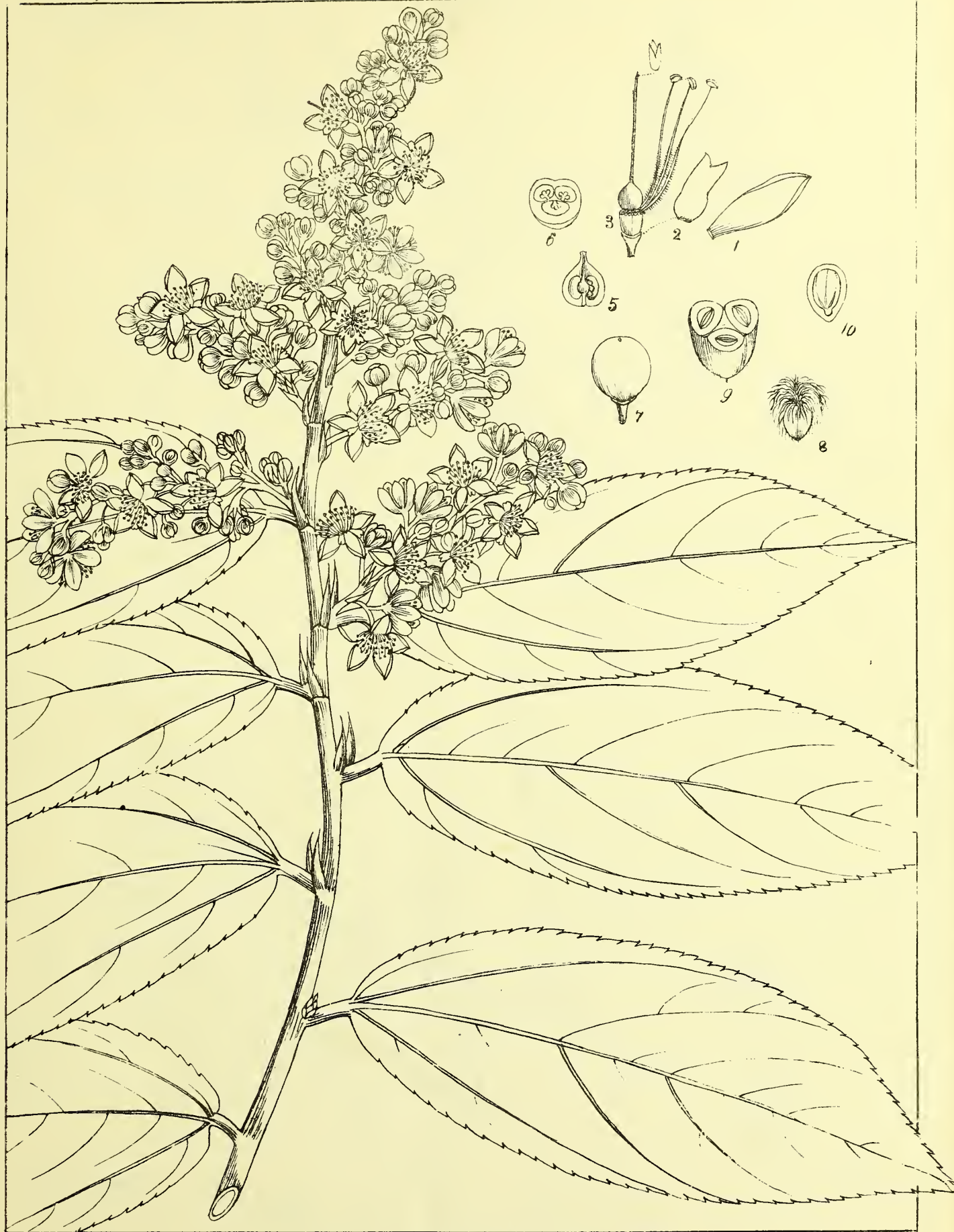






*Grewia umbellata* Roxb.

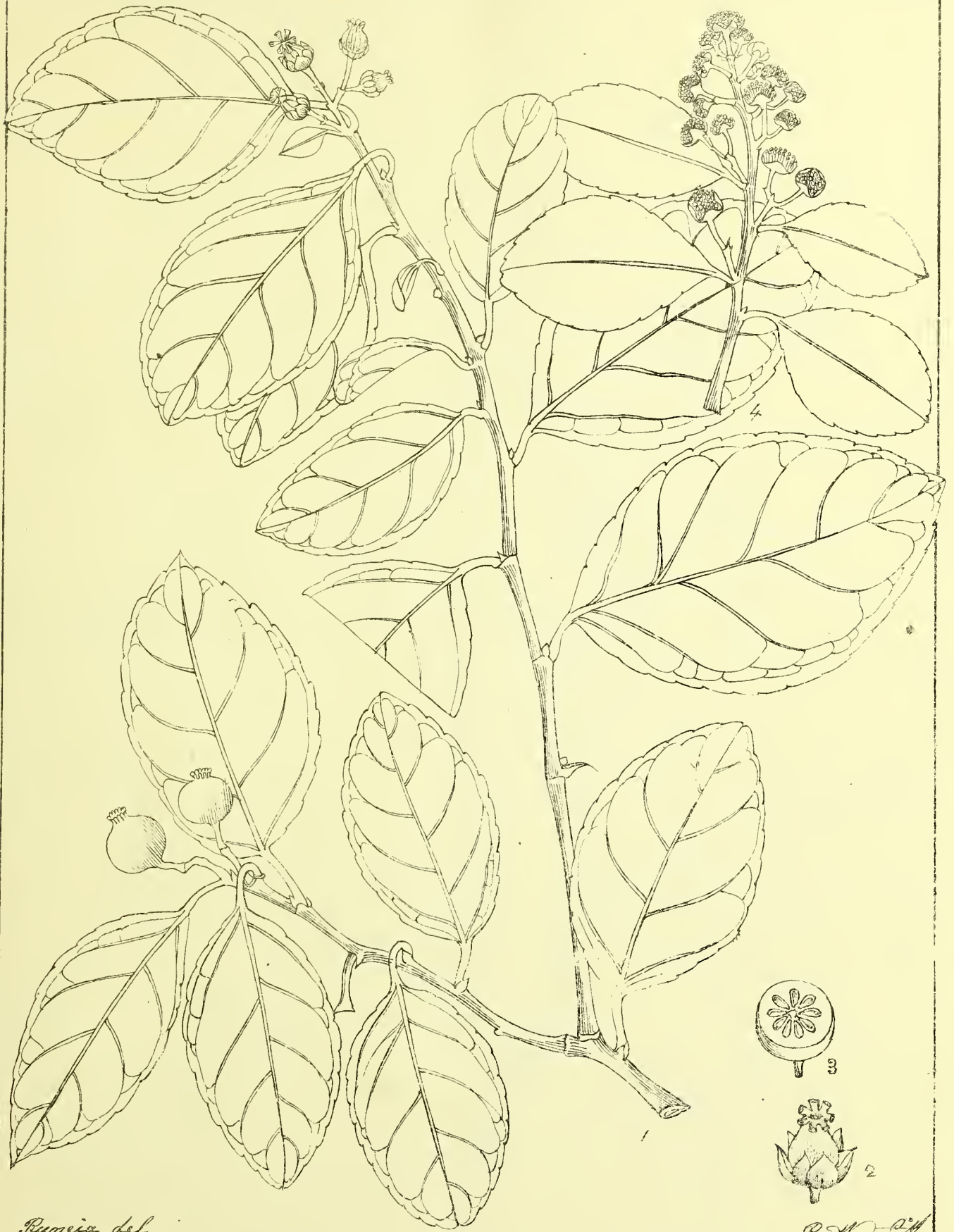




*Grewia ulmifolia* Roxb.  
*G. Microcos.* W & A prodr.





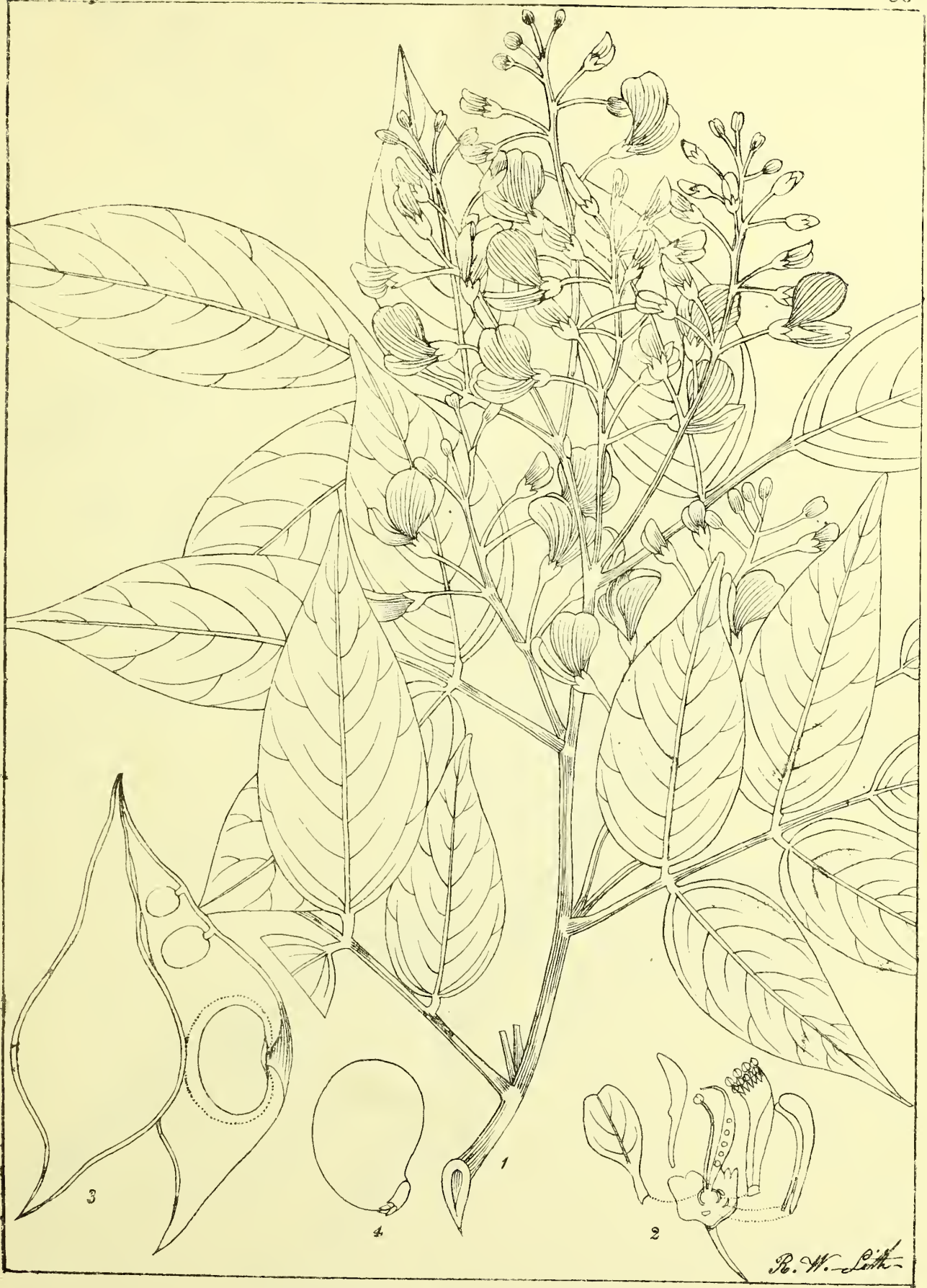


Ramzja del.

P. W. L. H.

*Hacourtia Ramontchi* (C. Mor.)



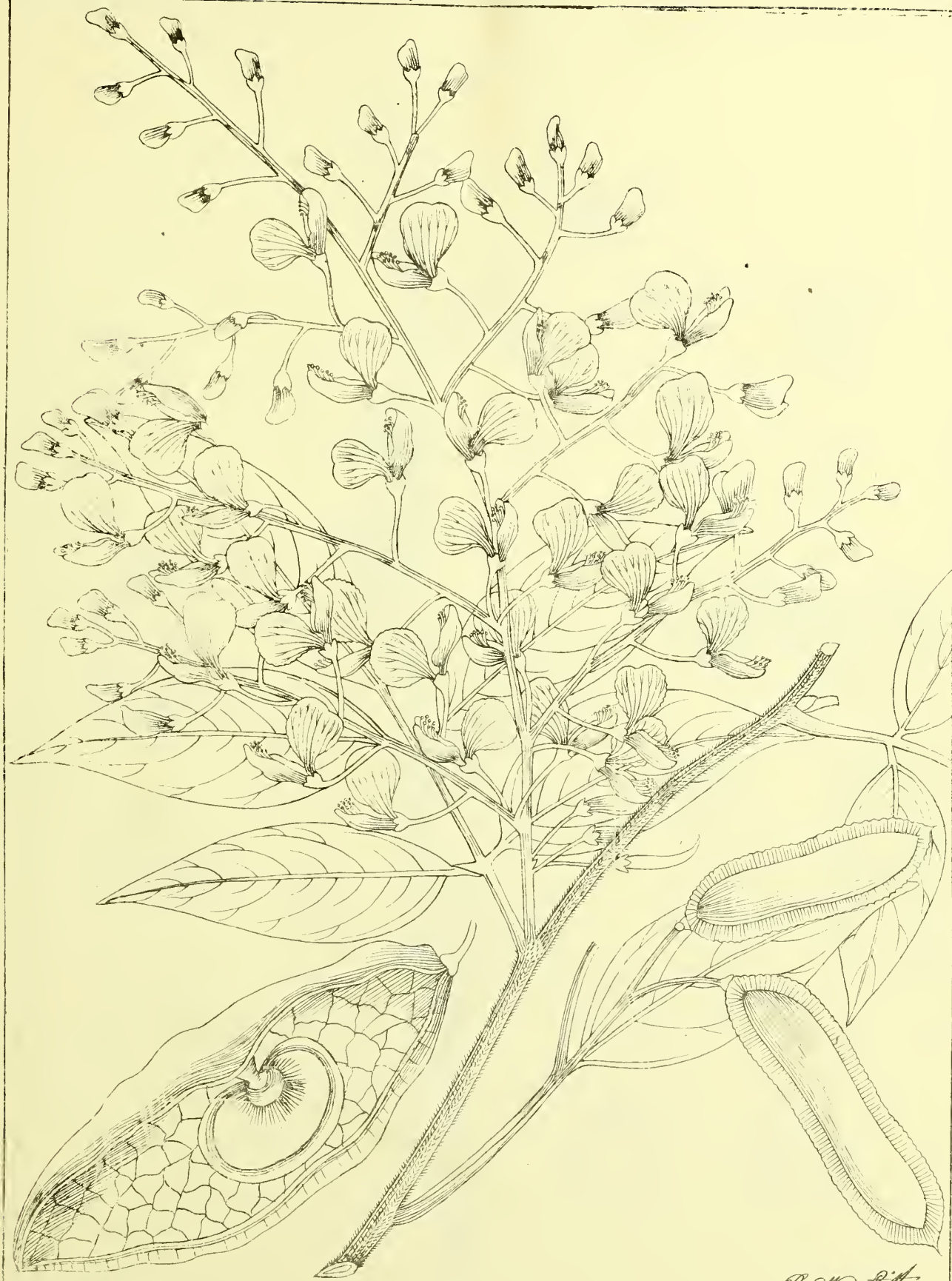


*P. W. Little*

*Millettia ? piscidia* (W & A)  
*Galedupa piscidia* Roeb.



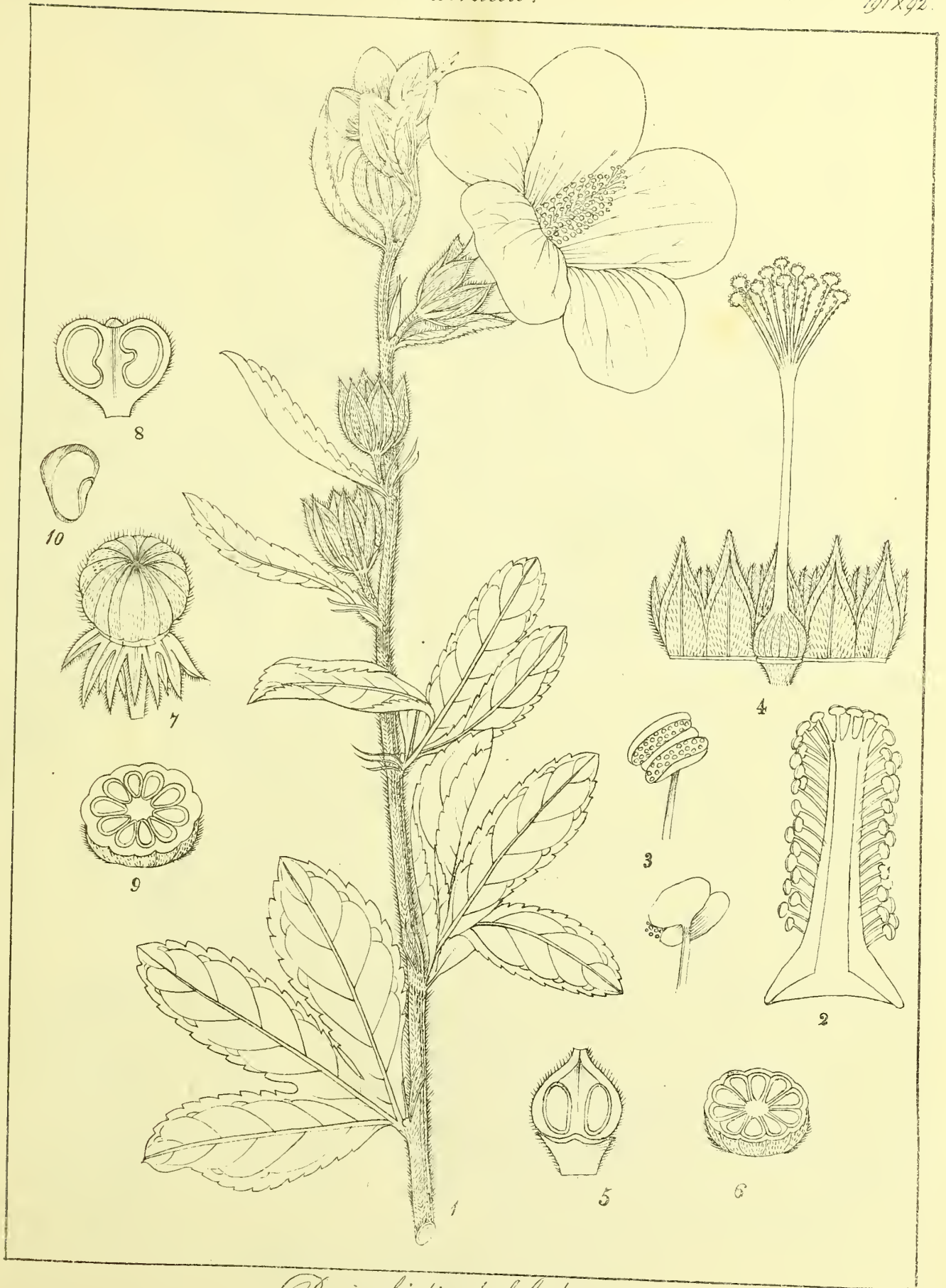




R. W. Little

*Archaea-jila. B.* *Dalbergia marginata* (Roxb.)

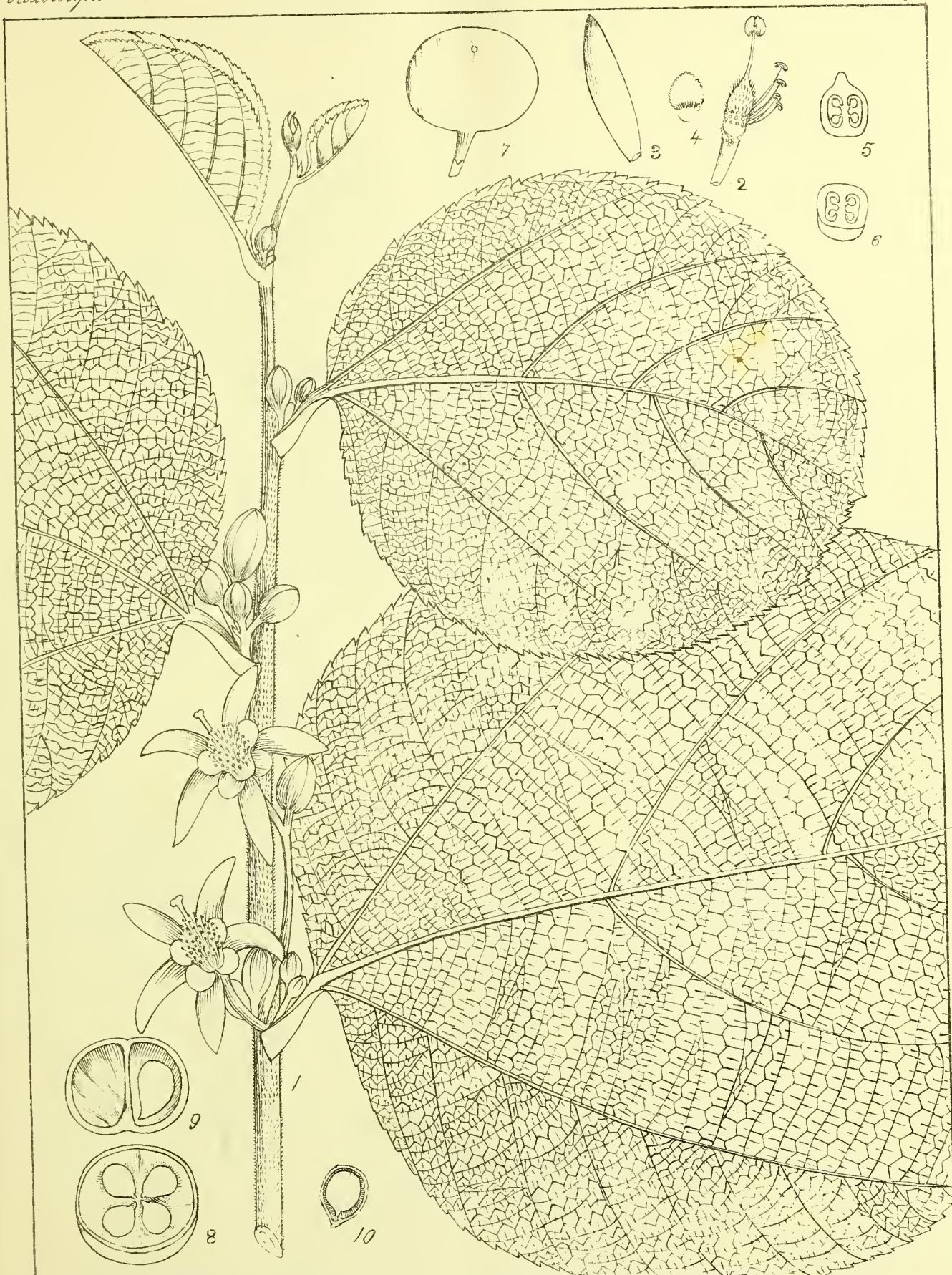




*Decaschistia trilobata.*



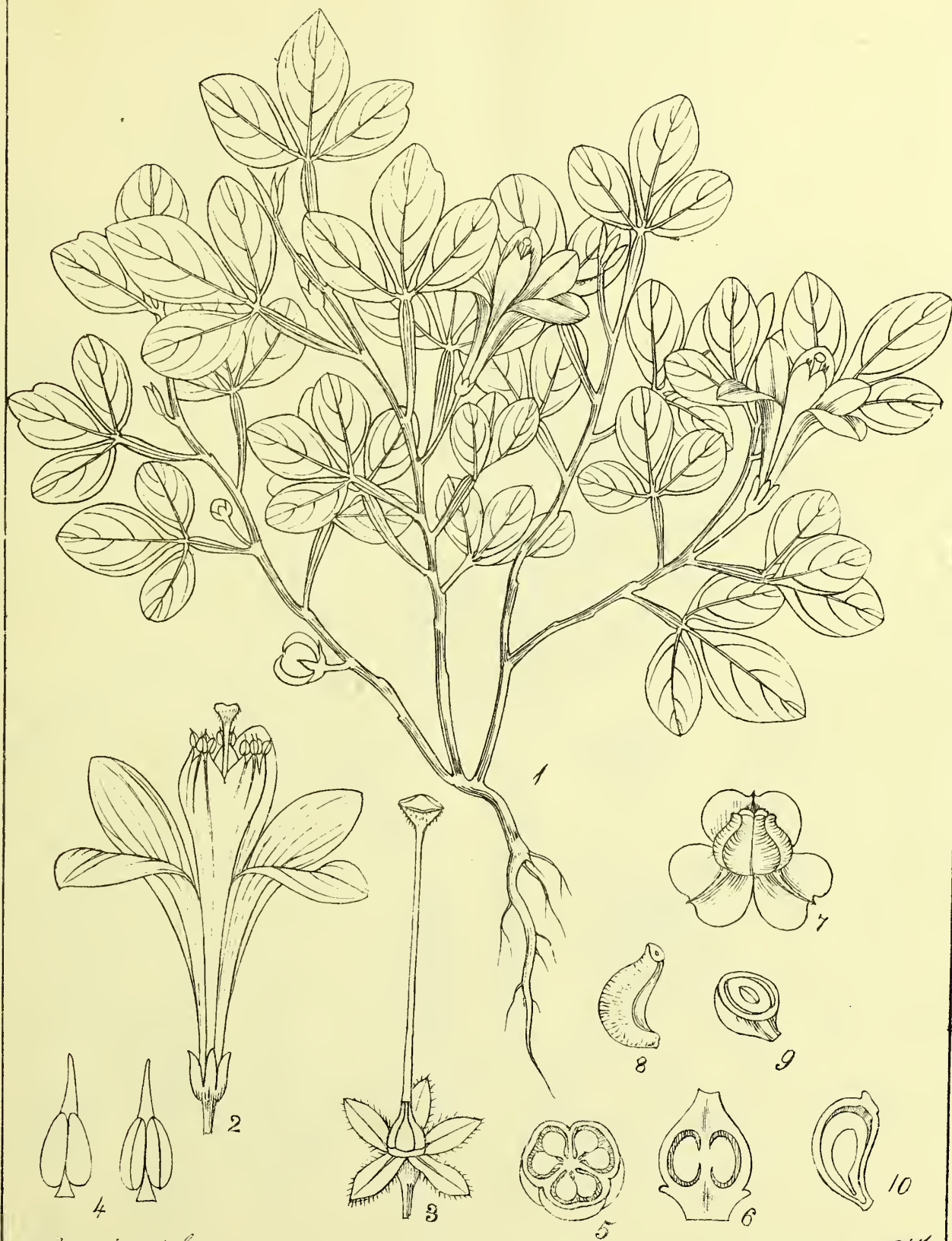




*Grewia sclerophylla* R. M. S. S.  
*G. scabrophylla* R. H. Ind.







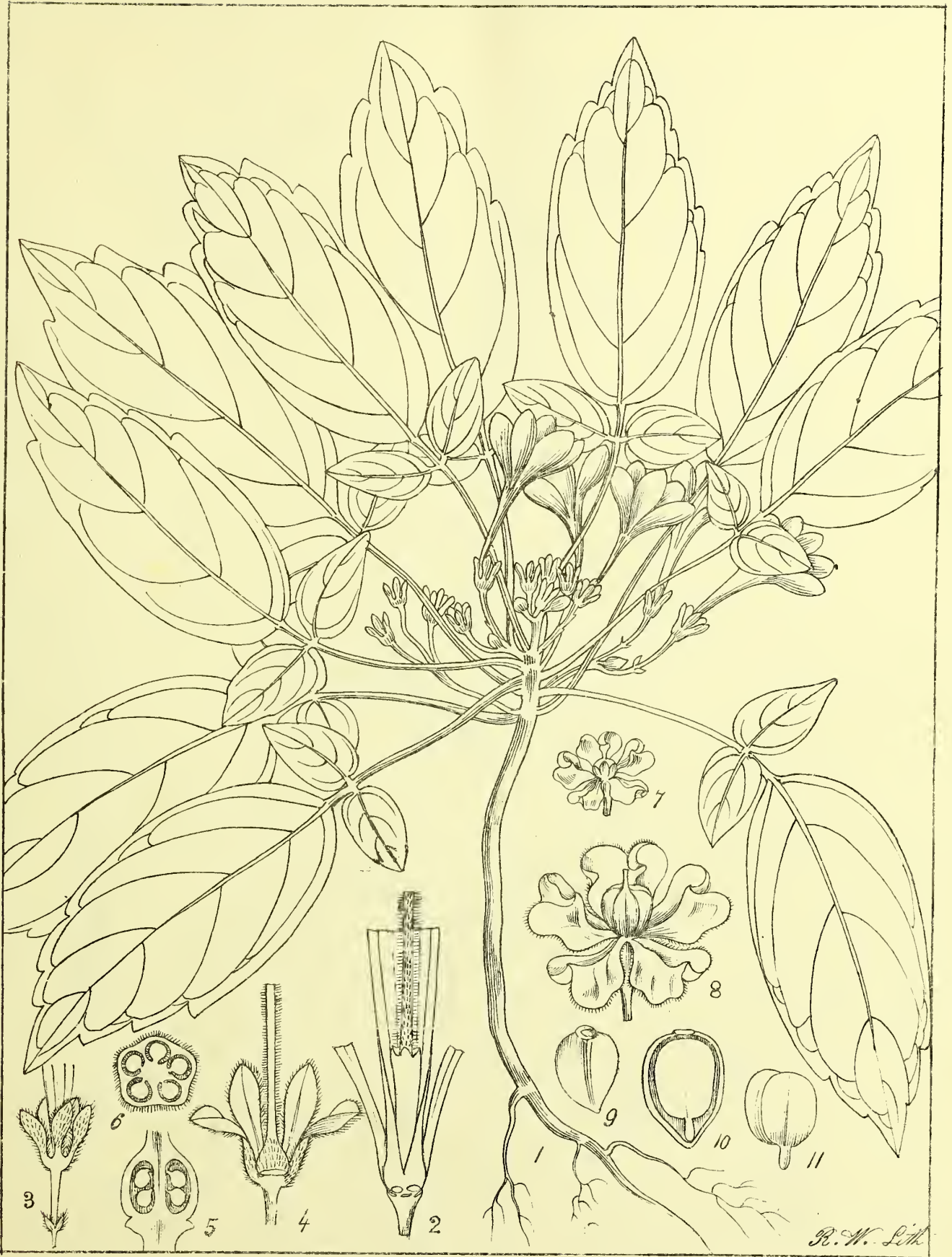
*Rungia del*

*P. W. Felt*

*Nargamia alata* (W.B.A.)







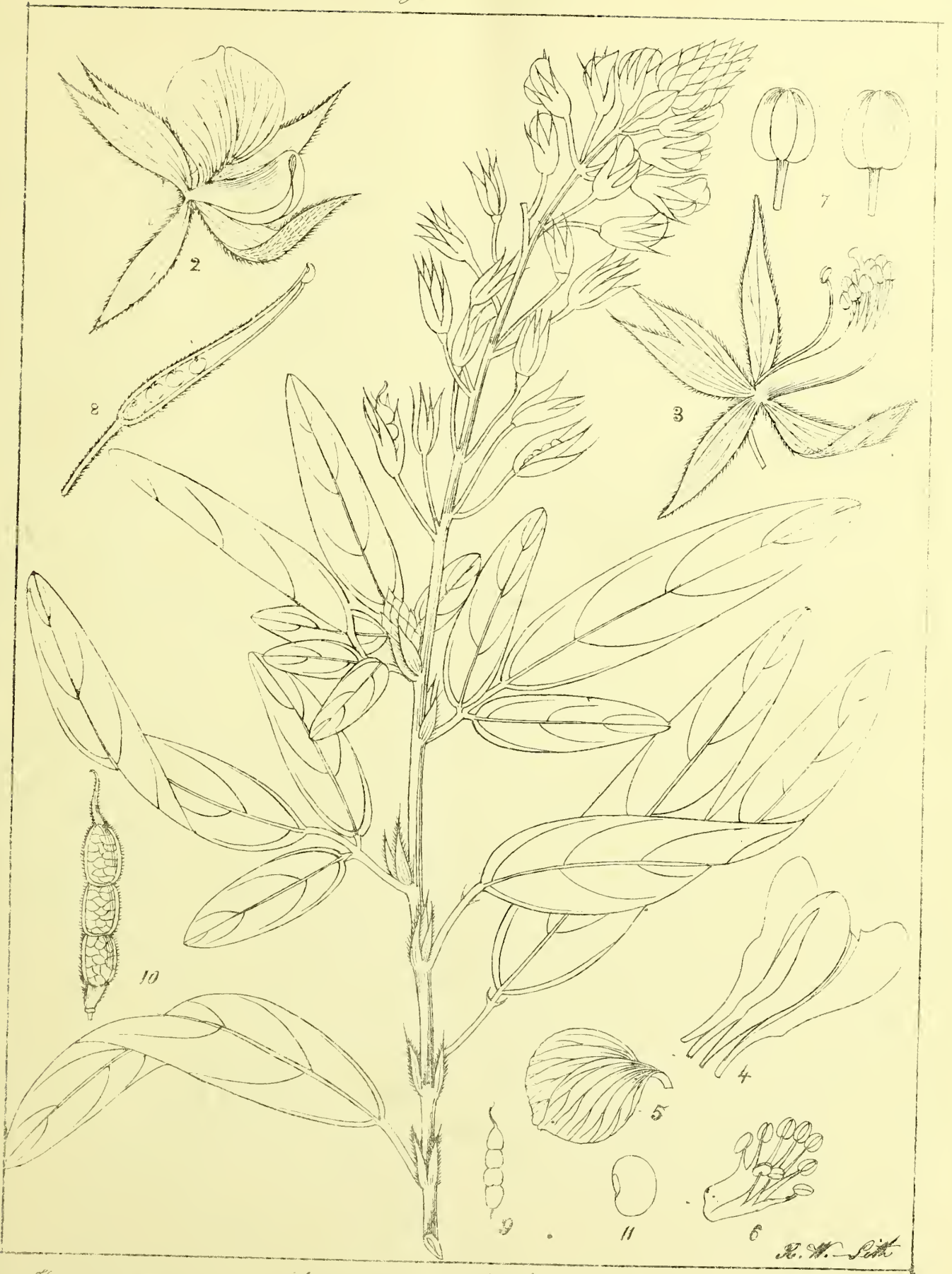
Rangia del

*Meliosoma pumila* (R. W.)  
*Melia pumila* Moen.

S. J. D. D. D.  
 Trin-kohombu, Cey.

R. W. L. H.

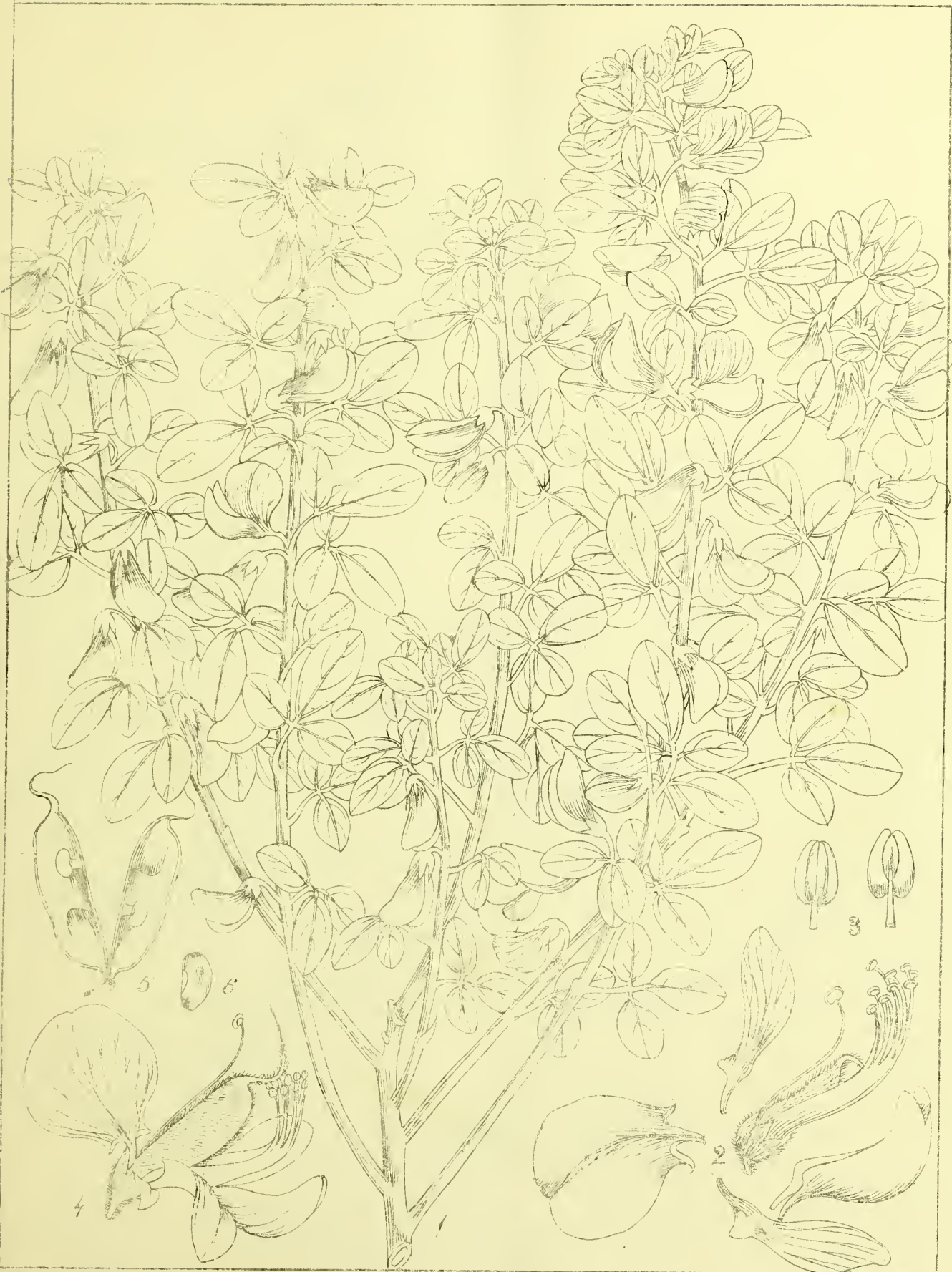




Hb. Gr. Alwis. del *Mespilus Belguamensis*





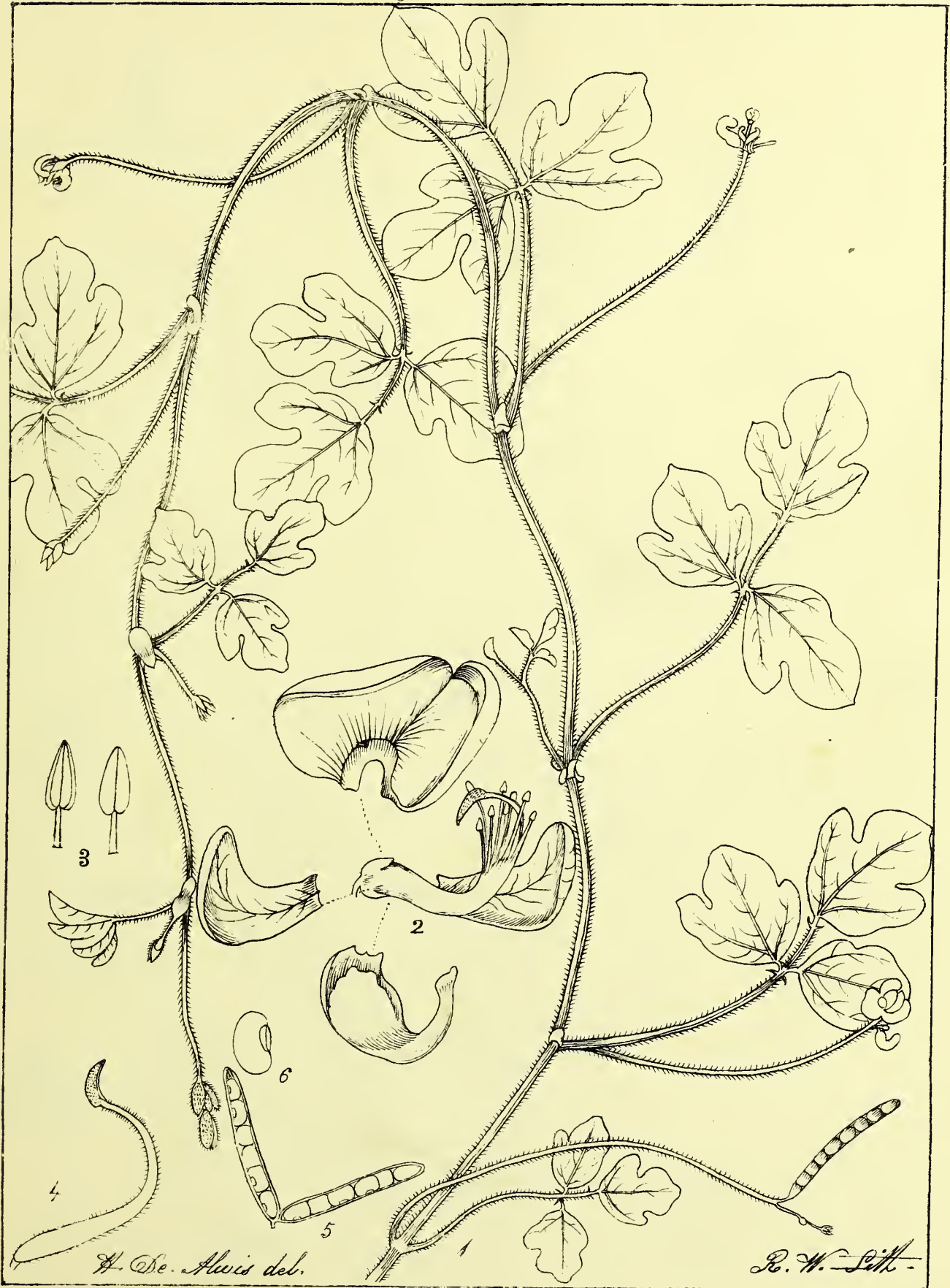


Hb. Vind. Alvaris del.

*Mimosa Lurii* (R. H.)

R. W. Lath.

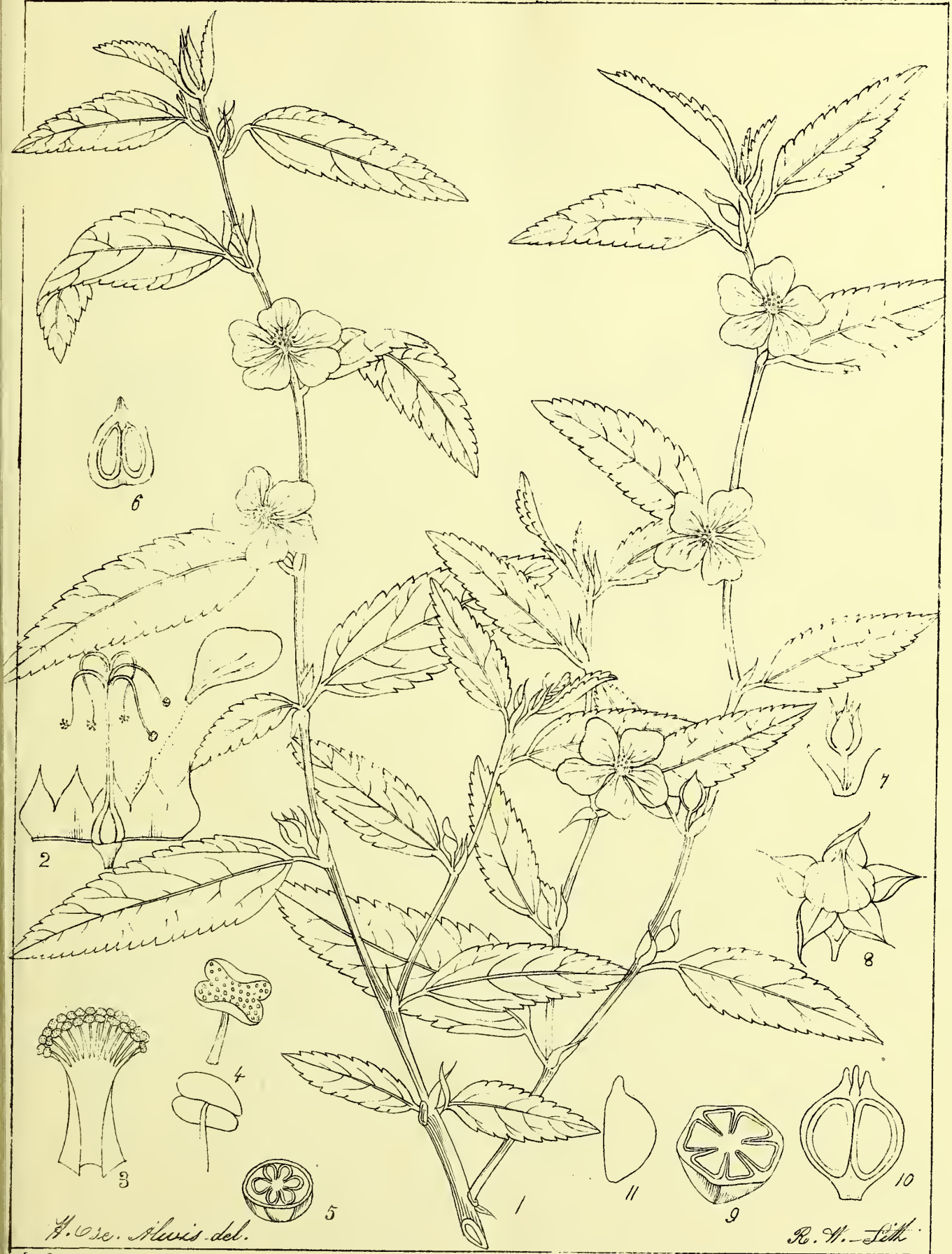




15. 11. 1877. 15. 11. 1877. *Phaseolus trilobus* (Ait.)  
*Marro-pythensis* (Lam.)







H. W. Se. Mevis. del.

R. W. L. L. L.

சீதா அகூட்டி  
செரிவாடி-காபிலா-கொழு

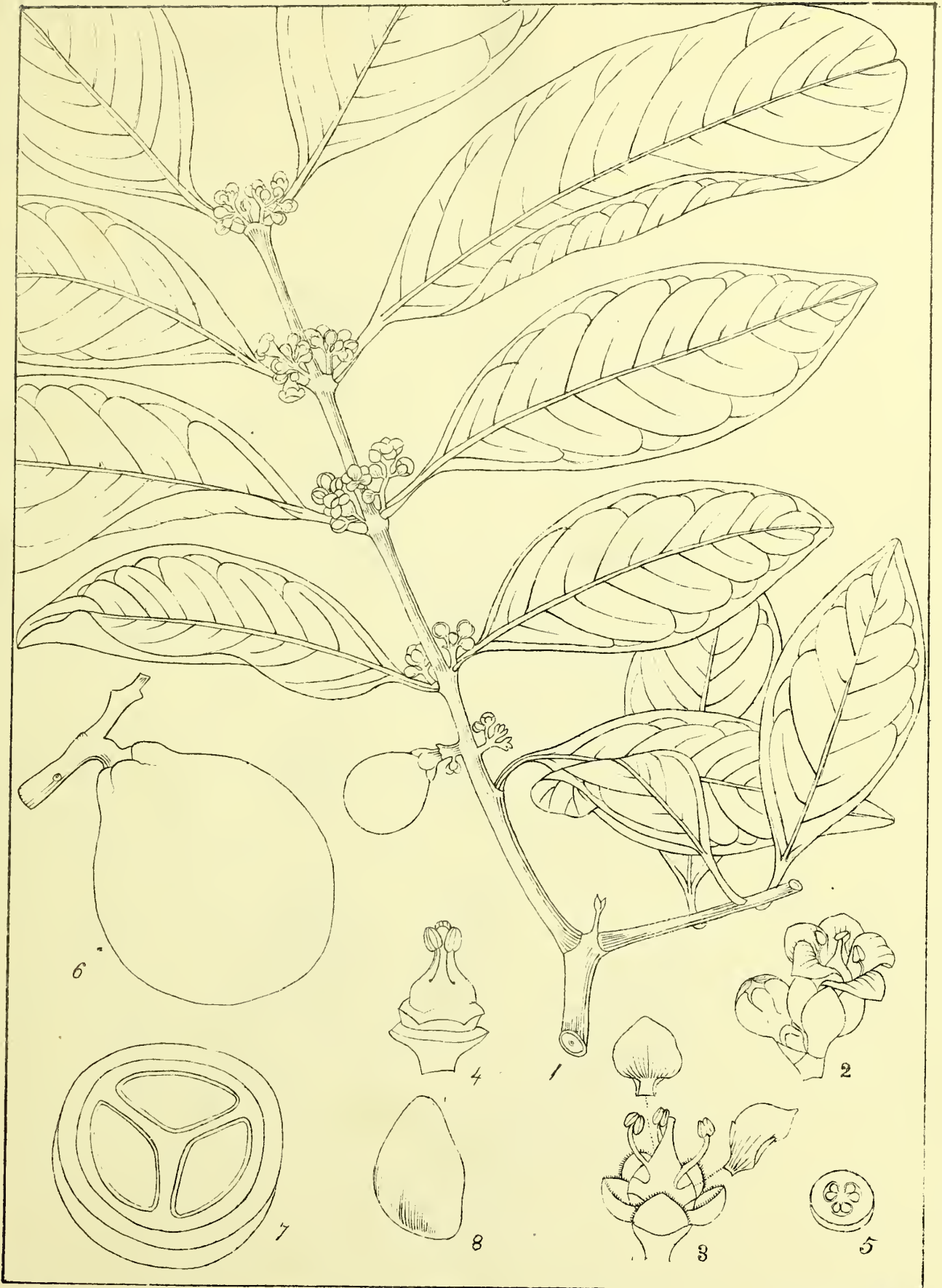
*Sida acuta* (Burm.)



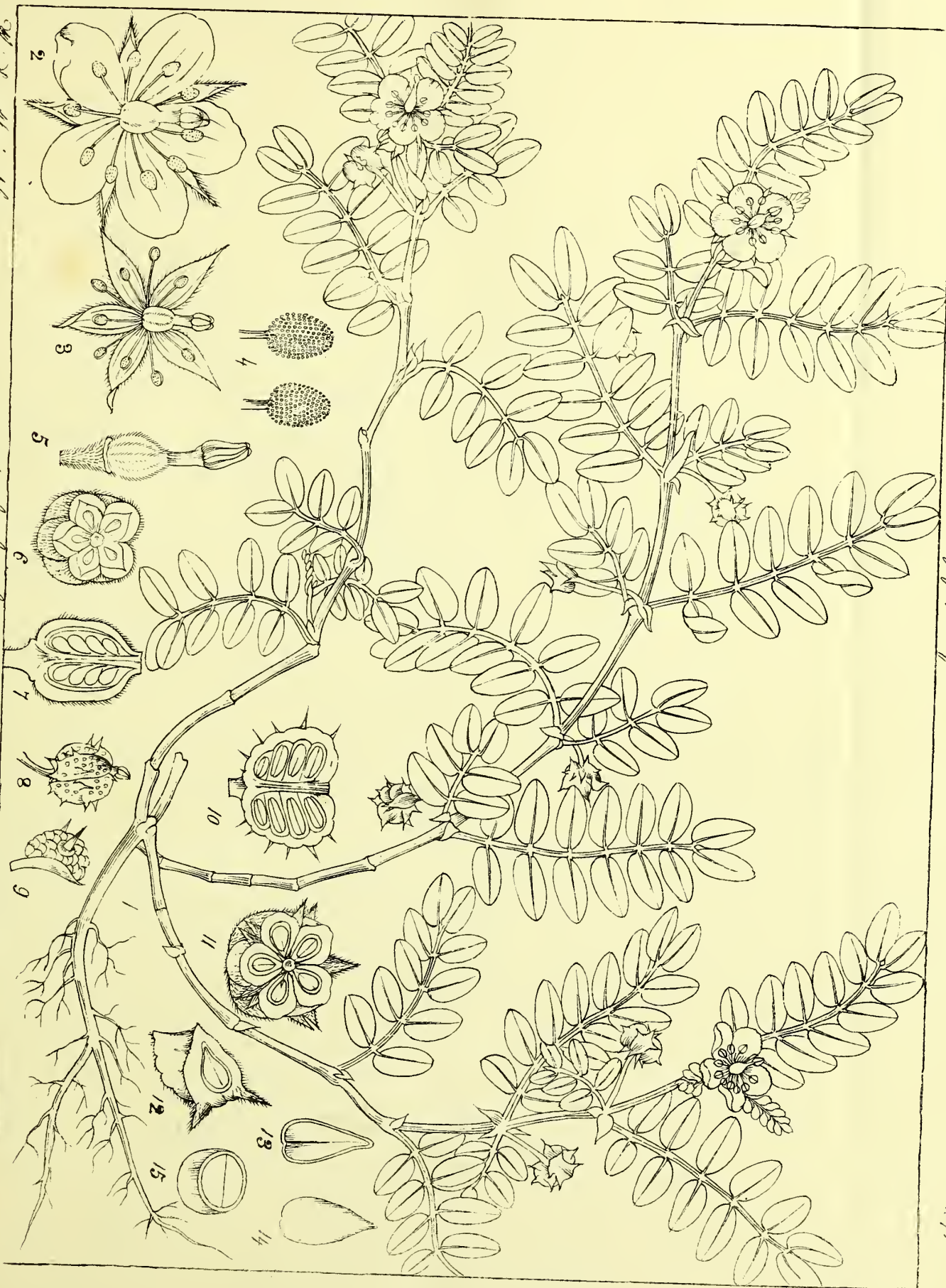












മ. (D. *Stauris* del.  
 ചെങ്കുളം താലൂക്കിൽ  
 ചെങ്കുളം താലൂക്കിൽ. 1903

*Tribulus terrestris* (Linn.)

ചെങ്കുളം താലൂക്കിൽ  
 ചെങ്കുളം താലൂക്കിൽ. 1903











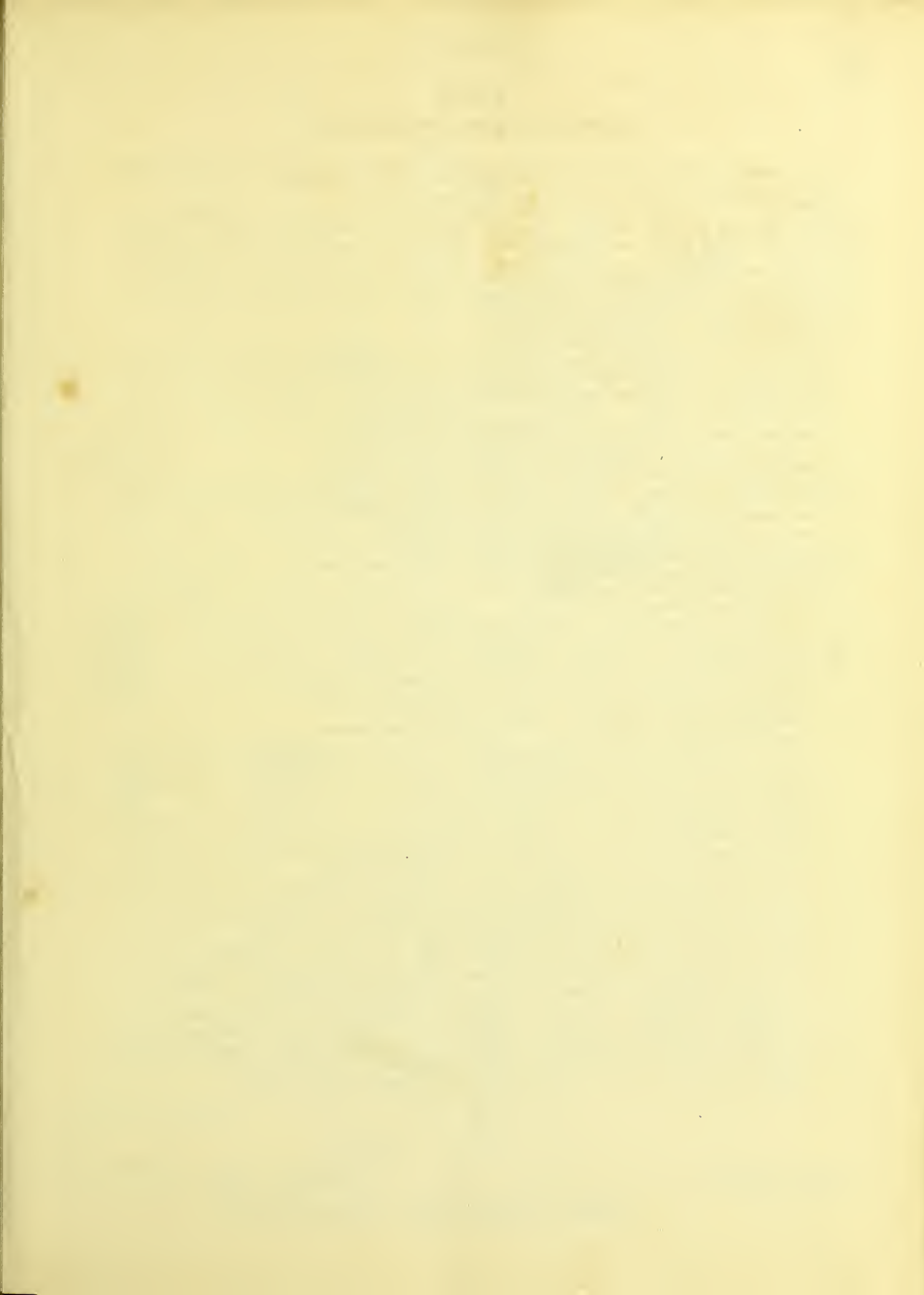
Grayson del

P. W. Little

*Eugenia Rottleriana* (H. & A.)







## No. VI.

# EXPLANATION OF PLATES.

101. *Buchanania angustifolia*, *natural size*.—2. An expanded flower—3. The same, the petals removed to show the insertion of the stamens under the disk—4. Sepals, petals and stamens removed, the disk partially separated, and thrown back to show the fertile ovary and 4 sterile styles—5. Stamens—6. The ovary—7. The same cut vertically—8. The same cut transversely—all more or less magnified.

102. *Garcinia pictoria*, Roxb. *natural size*.—2. The female flower the ovary removed to show the insertion of the stamens and union of the filaments near the base—3. Stamens detached—4. The same more highly magnified—5. The ovary detached—6. Cut vertically—7. Transversely—8. A full grown fruit—9. Cut transversely—10. A seed—11. Cut lengthwise—all more or less magnified.

103. *Garcinia lanceifolia*, Roxb. *natural size*.—2. A female flower, the ovary removed showing the stamens and petals—3. The ovary cut transversely, many celled—both magnified—4. A full grown fruit, *natural size*.

104. *Garcinia Roxburgii*, R. W. (*G. cowa* Roxb.)—1. Male plant—2. A portion of a male flower—3. An anther—4. Female branch—5. Fertile or female flower—6. Stamens, both magnified—7. A full grown fruit seen from below—8. The same from above—9. Cut transversely—10. A seed with its integument, and freed from it—*natural size*.

105. *Garcinia cornea*, Liu.—1. Male branch—2. Detached flower seen from below—3. A fasciculus of stamens seen from within, a detached anther magnified—4. The termination of a fertile branch with its solitary flower—5. Female flower seen from below—6. The ovary—7. A full grown fruit—8. The same cut transversely—with the exception of the anther, the figures of this plant do not seem to be magnified or but very slightly so.

106. *Calophyllum decipiens*, *natural size*.—2. A flower-bud opened to show the petals, which seem to drop immediately on the natural expansion of the flower—3. The calyx and ovary after the fall of the petals and stamens—4. Anthers back and front views—5. The ovary somewhat further advanced—6. The same cut vertically, showing the solitary erect ovule—7. Cut transversely—all more or less magnified—8. A fruit, *natural size*—9. Cut transversely—10. Vertically showing the embryo—magnified.

107. *Calophyllum Burmanni*, R. W. var  $\beta$  *parvifolium*—*natural size*.—2. An expanded flower—3. The sepals removed—4. Stamens showing the union of the filaments at the base—5. Anthers—6. The ovary *in situ* after the fall of the stamens—7. The same the petals removed—8. Cut vertically, to show the solitary erect ovule—9. Cut transversely—all more or less magnified.

108. *Calophyllum Burmanni*,  $\alpha$  R. W. see 107 for explanations—7. A full grown fruit—8, 9, 10. Dissections of the same.

109. *Lagerstroemia microcarpa*, R. W. *L. parviflora*, W. and A. *Prod.* page 308—2. A flower split open and spread out, to show the perigynous insertion of the petals and stamens—3. Anthers—4. Ovary, style and stigma—5. Cut transversely—6. Vertically—7. A mature fruit, *natural size*—the calyx as here represented is rather too short—8. A mature capsule bursting, showing the four valves—9. One of the valves separated with the seed attached—10. A seed—with the exception mentioned, all more or less magnified.

110. *Calophyllum tomentosum*, R. W. *natural size*.—2. An expanded flower—3. The same, sepals and petals removed—4. Stamens and filaments cohering below—5. Anthers—6. Ovary—7. Cut vertically—8. Transversely—all more or less magnified—9. A portion of a young shoot magnified, to show the tomentum with which it is clothed.

111. *Calophyllum Moonii*, R. W. *natural size*.—2. An expanded flower—3. The ovary and sepals—4. Stamens—5. Ovary cut vertically—6. Transversely.

112. *Garcinia paniculata*, Roxb.—1. Male plant portion of a branch with a paucile of flowers, *natural size*.—2. Male flower front view—3. Back view—4. Detached stamens—5. Female plant—6. Female flower seen from above—7. From below—8. Detached ovary and stigma—9. 10 full grown fruit seen from above and below—11. Cut transversely—12. A seed with its arillus—13. The same the arillus removed—14. *Natural size* of a fruit gathered from a wild plant in Sihet.

113. *Garcinia Kydiana* (Roxb. M. S. S.)—1. Male plant—2. A male flower divided vertically showing the column of united filaments—3. An anther showing its four angles and distinct polleniferous cells—4. The same cut transversely—5. A female branch—6. A female flower divided vertically—7. The same cut transversely—8. A full grown fruit—9. The same cut vertically showing a seed imbedded in pulp—10. Cut transversely several of the seed abortive—11. A seed germinating.

114. *Garcinia pedunculata*, Roxb.—1. Female plant—2. An expanded flower, the ovary removed, showing the union of the filaments near the base and the detached ovary—3. A full grown fruit—4. The same cut transversely—5. A seed.

115. *Garcinia pedunculata*, (Roxb. 6.)—1. Male plant—2. An expanded flower seen from below—3. From above—4. The column of stamens—5. A detached anther.

116. *Garcinia Mirguensis*, R. W.—1. Male plant, *natural size*.—2. An expanded flower seen from above—3. The same from below showing the exterior pair of sepals much smaller than the interior—4. Sepals and petals removed, the fasciculi of stamens drawn back to show their number and central sterile stigma—5. The same parts *in situ*.—6. A fasciculus of stamens, one anther separated and more highly magnified—7. The abortive pistil—8. and 9. The same cut transversely and vertically, its cellular structure resembling ovules.—All more or less magnified.

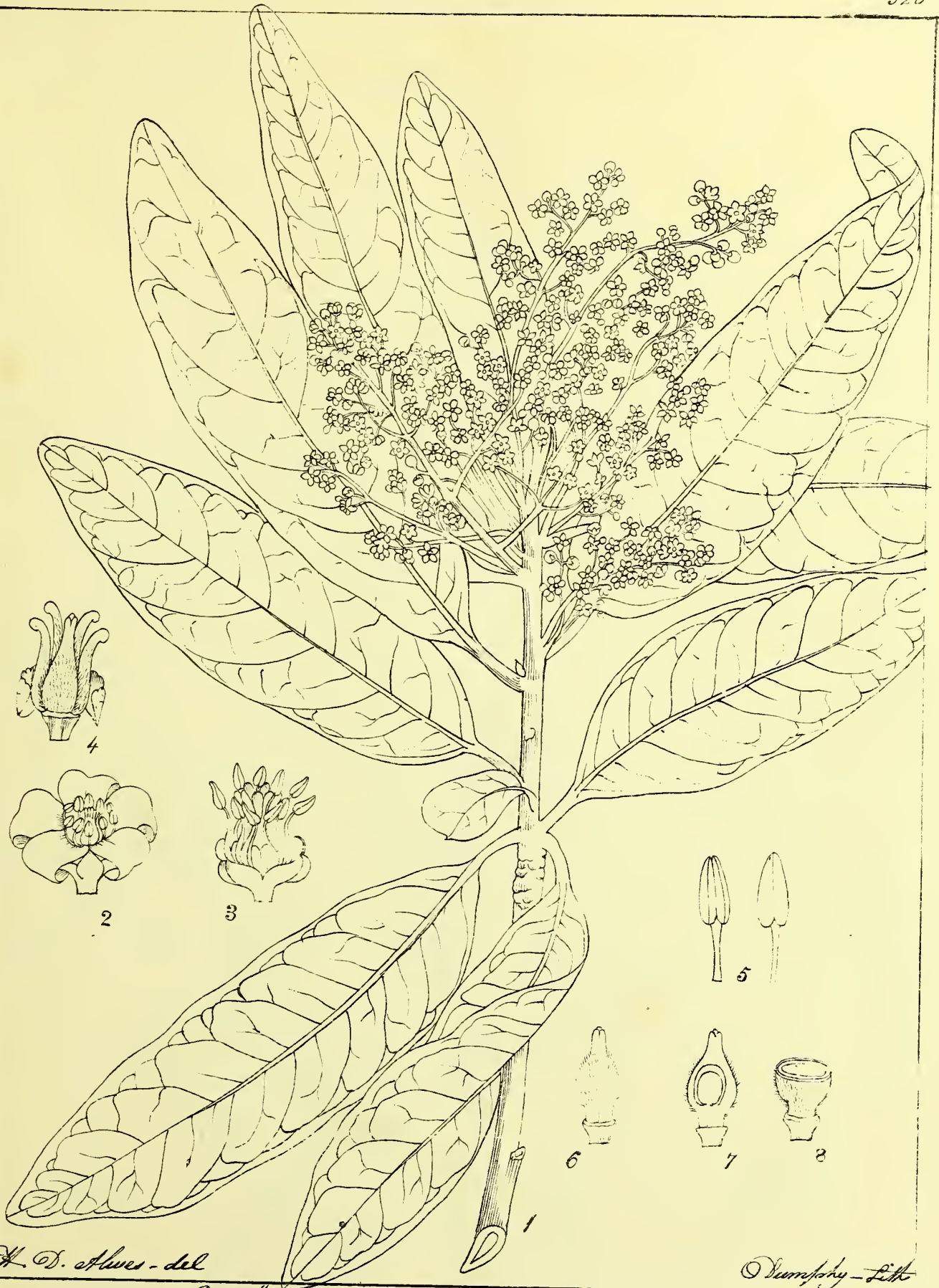
117. *Mesua Coromandelina*, (R. W.)—I. A flowering branch, *natural size*.—2. A partially dissected flower, the sepals and petals removed to show the stamens and stigma—3. Anthers—4. Petals and stamens removed to show the ovary—5. The ovary cut vertically, showing its 2 cells and erect ovules—6. Cut transversely showing the 4 ovules.

118. *Mesua ferrea*—a flowering branch copied from a beautiful coloured drawing made by Mrs. Colonel Walker. The detached leaf is introduced to show the size and form of the larger leaves. It is an exact tracing.

119. *Mesua pedunculata*, R. W.—1. Flowering branch, *natural size*.—2. The sepals and ovary—3. Anthers—4. Ovary the sepals removed—5. The same cut vertically—6. Transversely, all more or less magnified.

120. *Garcinia elliptica*? Wall.—I. Branch of the female plant in fruit—2. A young fruit with its persistent sepals—3. The same cut transversely showing its two cells—4. Cut vertically showing the central attachment of the ovules.

121. *Garcinia conicarpa*, R. W.—1. Male plant *natural size*.—2. Male flower-bud—3. The same opened—4. Petals removed to show the union of the filaments.—All more or less magnified.—6. Female plant, *natural size*.—7. Young fruit—8. The same cut transversely—9. Cut vertically.—All slightly magnified.

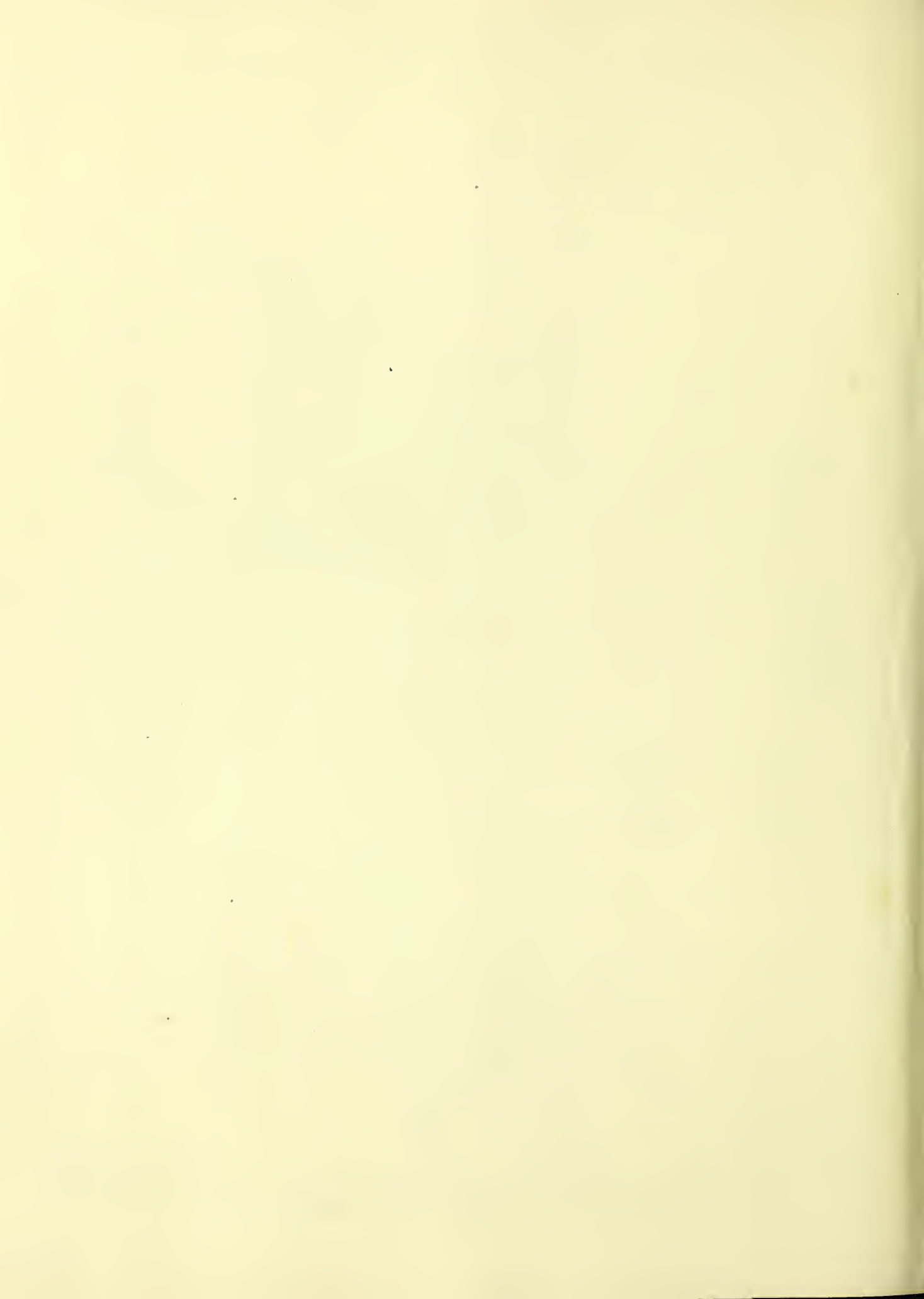


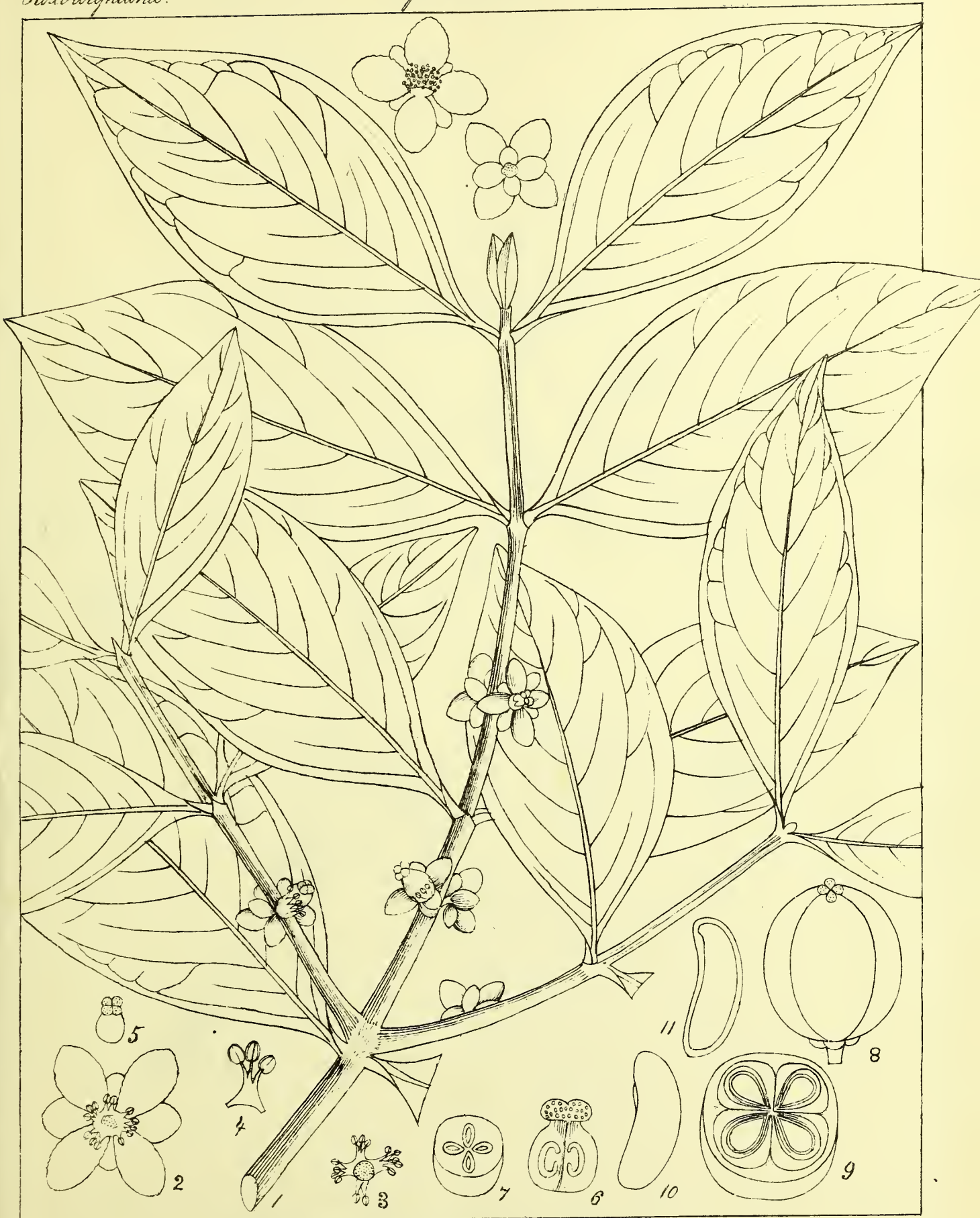
H. B. Plures - del

Dumortier - lith

*Buchanania angustifolia* (Roxb.)







*Garcinia pictoria* Roxb.

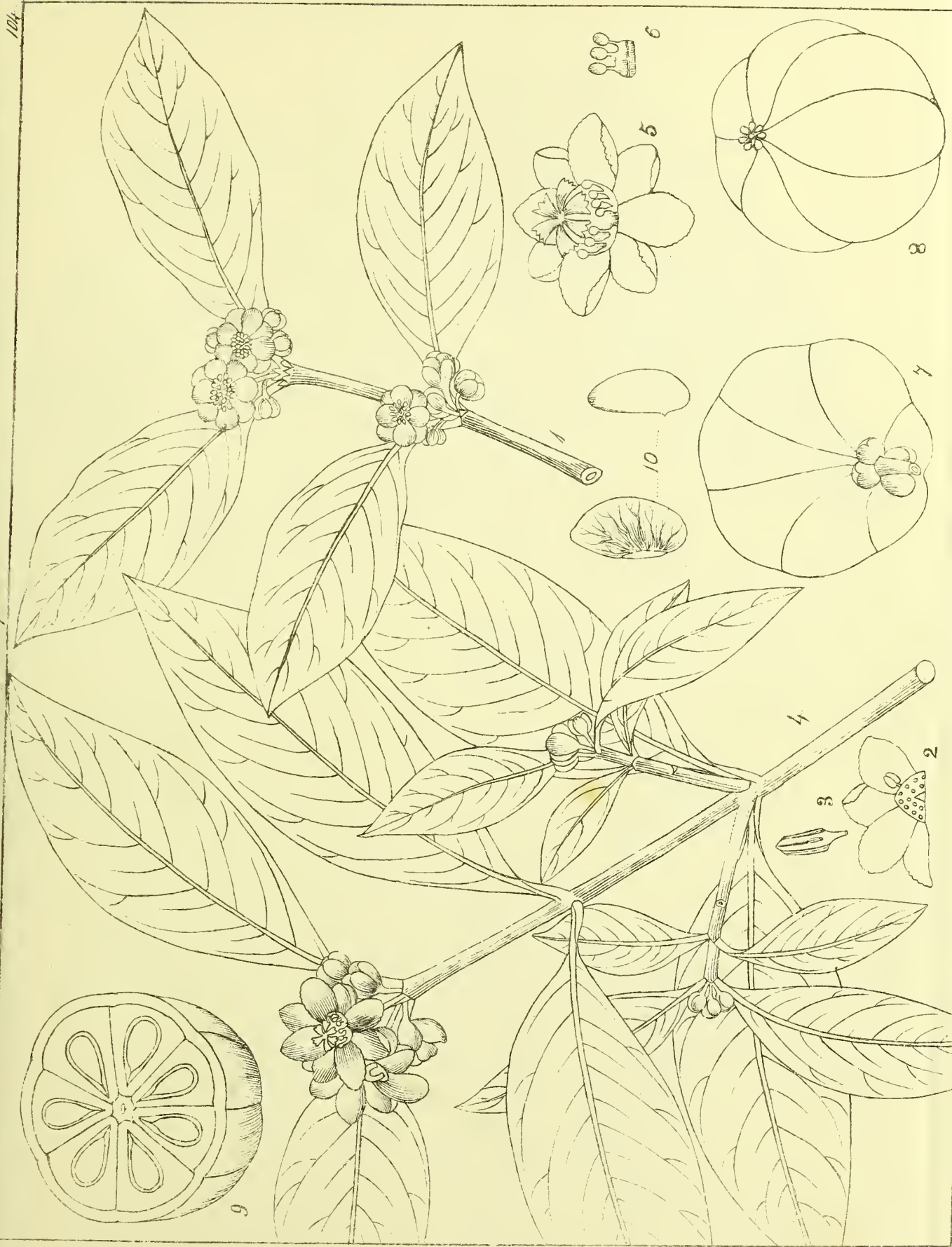




*Garcinia lanceaefolia* Roxb.

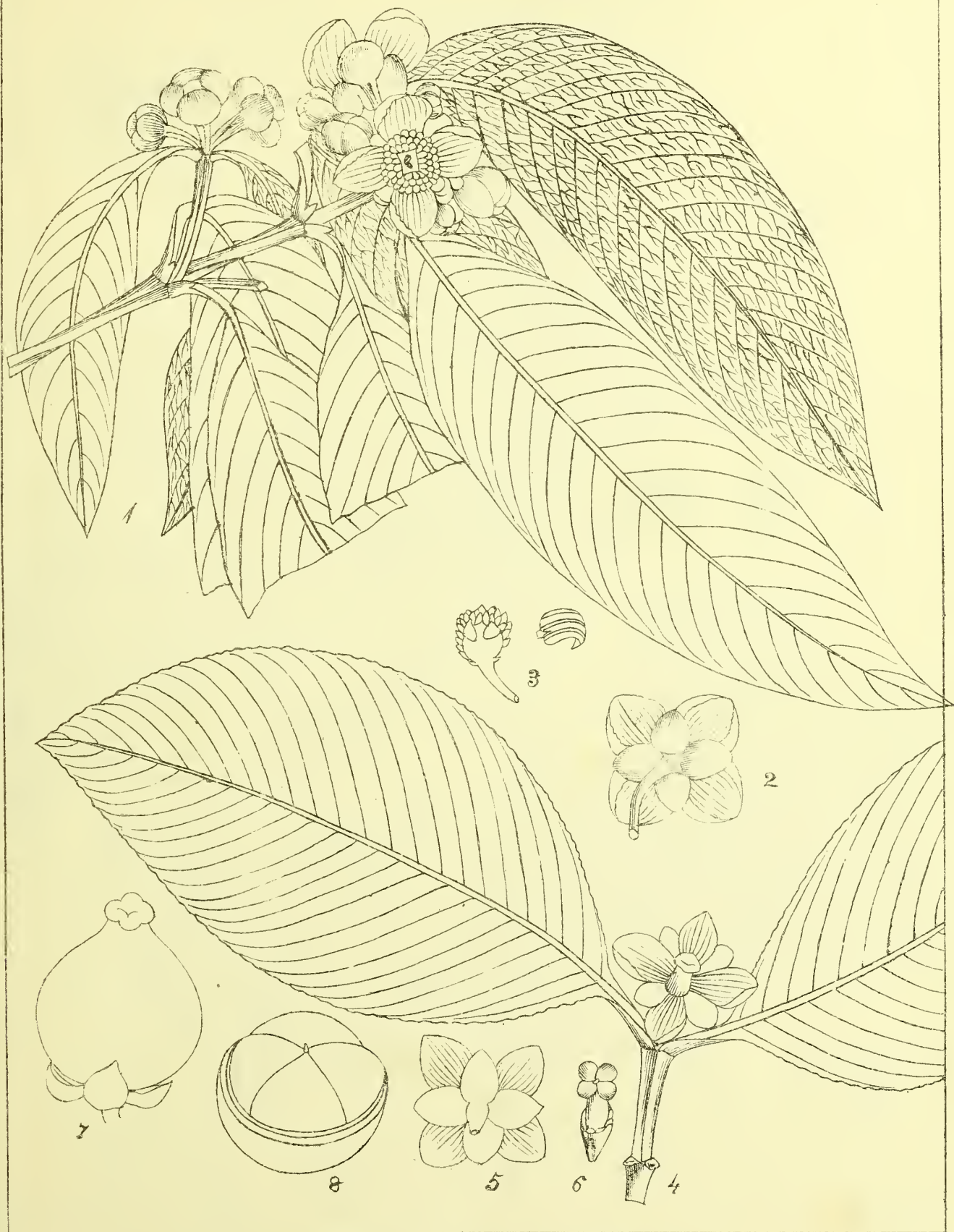






*Garcinia Baccifera*  
 G. Cova Boob. H. Ind.

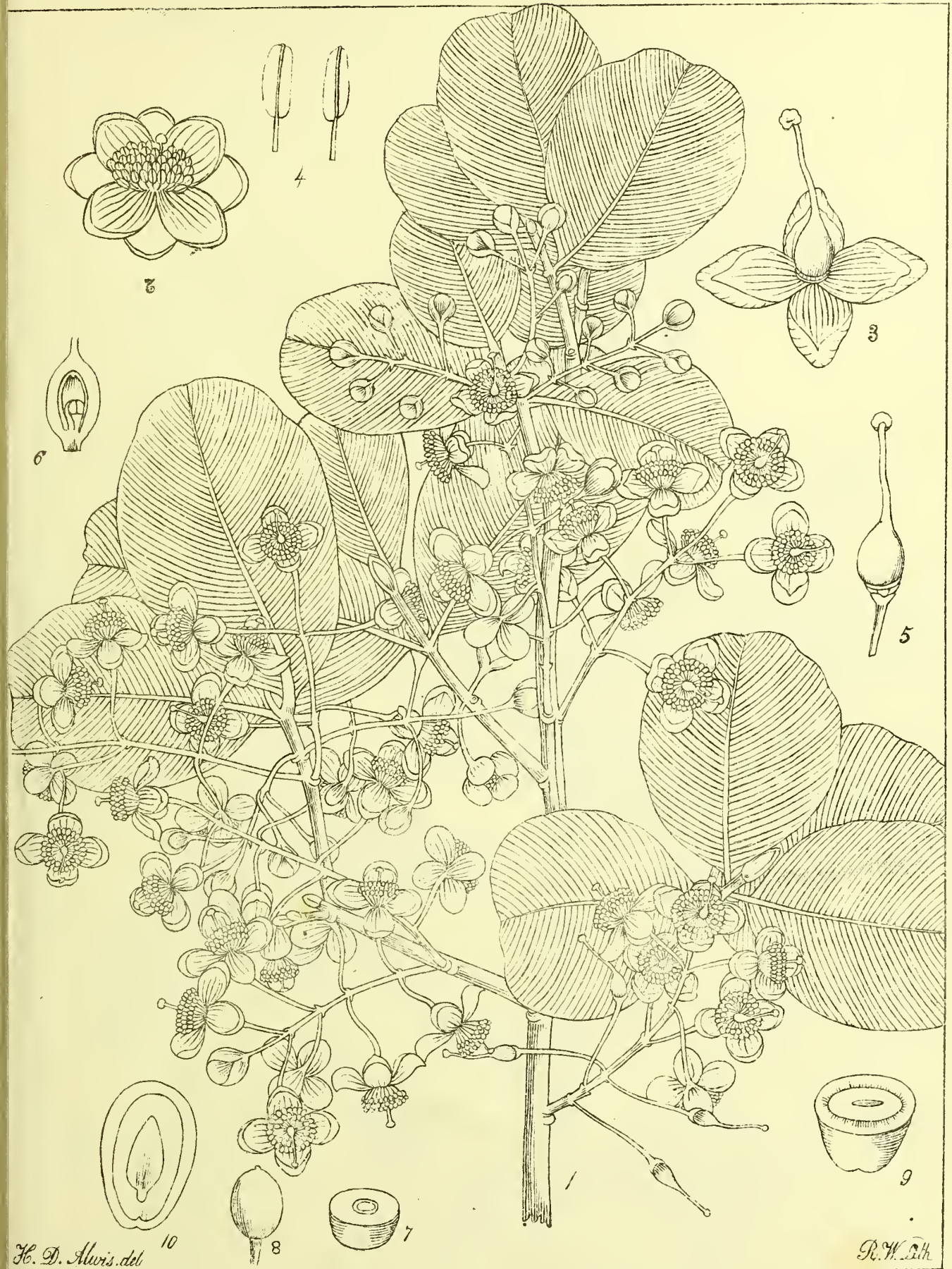




*Garcinia cornea* (Lin.)







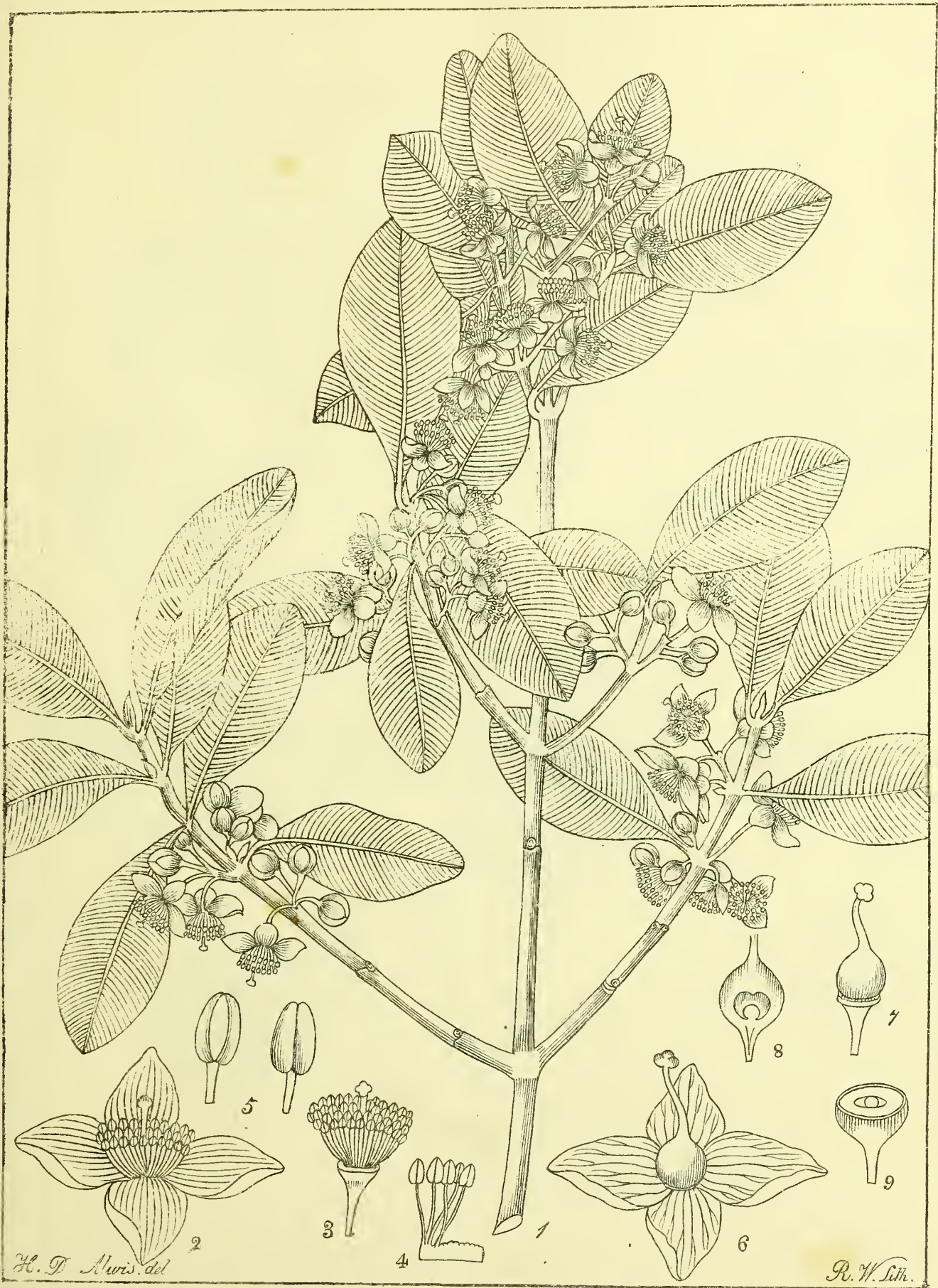
H. D. Morris del

R. W. G. h

*Calophyllum decipiens* (R. W.)







H. D. Morris del

R. W. Lith.

*Calophyllum Burmanni*. (R. W.)  
*β parvifolium*.





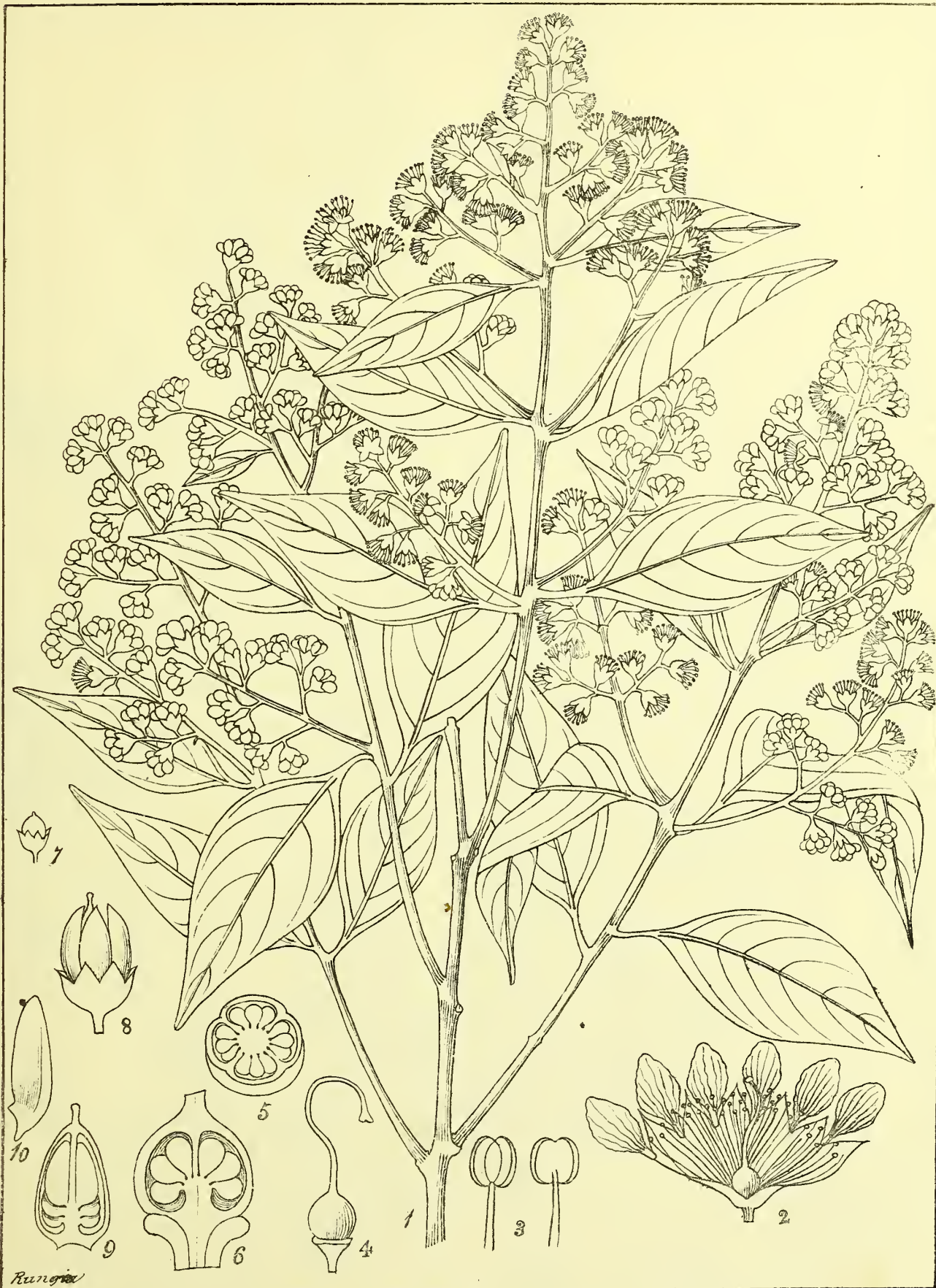


H. D. Davis

*Calophyllum Burmanni*. a.







*Lagerstræmia microcarpa* (R. W.)







*Calophyllum tomentosum.*







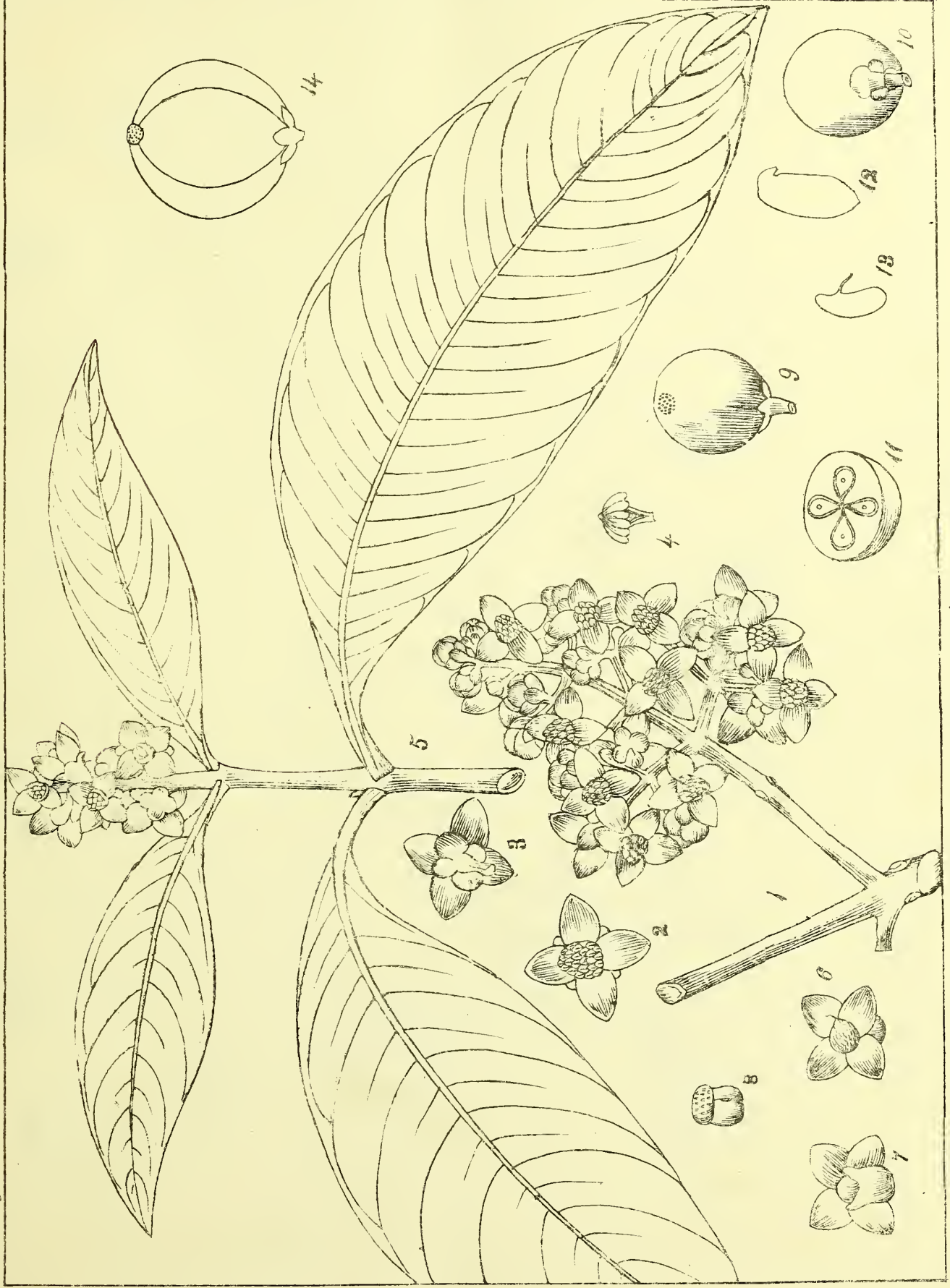
H. D. Morris. del.

R. W. Eth.

*Calophyllum moonii*. (R.W.)







*Garcinia paniculata*. (Roxb.)





*Garcinia hydiana*. (Roxb. Bss.)  
*G. hydica*. Roxb. Flora. Indica.

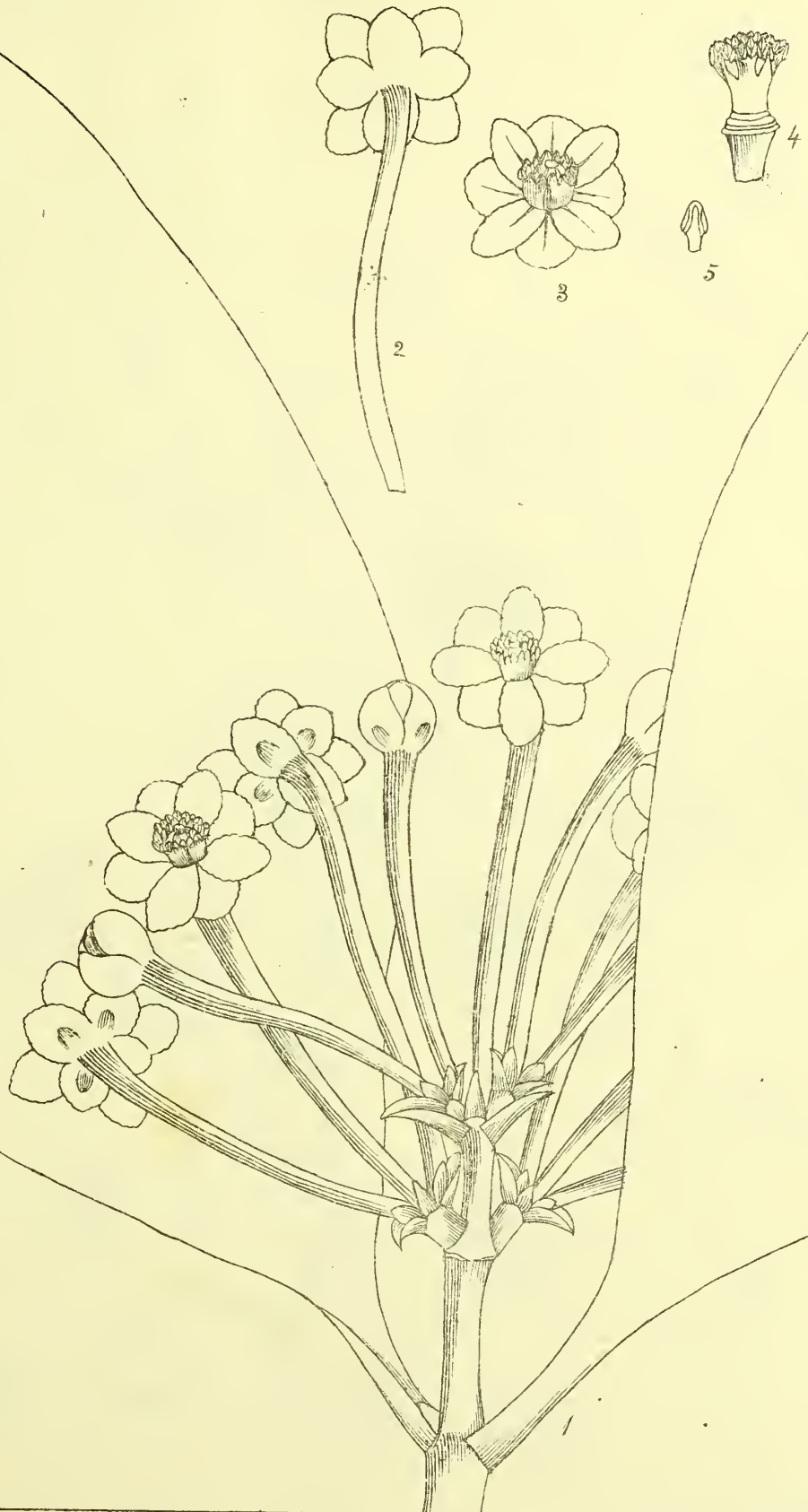






*Garcinia pedunculata.* (Roxb.)





*Garcinia pedunculata*. (Roxb.)







H. D. Alvis. del.

R. W. Sill.

*Garcinia Merguensis* (R.W.)





H. D. Alwis. del

R. W. Selk

*Mesua coromandelina.* (R.W.)







R. W. Lobb

*Mesua ferrea. (Sin.)*



guayana.



H. D. Alvis del.

R. W. Del.

*Mesua pedunculata.* (R.W.)







H. D. Morris. del.

R. W. Smith

*Garcinia elliptica*? (Wall.)





*Garcinia conicarp.* (R. W.)







## EXPLANATION OF PLATES.

The trees which respectively produce the Cinnamon and Cassia spices have, for a long series of years afforded matter for discussion and been a subject of controversy among Botanists. The question whether these barks were the produce of one or of several species having recently been referred to me by the Madras Government, I have been induced, in the present number of these Icons, to lay before the public figures of number of the species of the genus *Cinnamomum*, the younger branches of most, or perhaps all, of which, there is reason to believe, are peeled, as yielding an aromatic bark, more or less allied in its properties and flavour to that of the true Cinnamon and sold in the European markets under the name of Cinnamon or Cassia, according to its qualities.

The *Cinnamomum zeylanicum* of this series is, that which furnishes the true Ceylon Cinnamon, the *C. aromaticum* supplies the Chinese Cinnamon, which is but little, if at all less valuable, but is I believe, that which is considered among European druggists the genuine or first sort Cassia of commerce—nearly all the other species here figured, there is reason to believe, are indiscriminately peeled, and the bark sold as Cassia bark. The plant figured No. 132 (*Litsæa Zeylanica*) is the type of the Linnean *Laurus Cassia*, with which he associated, the species figured in Nos. 130 and 141, both of which are now ascertained to be most distinct, but which he did not discover owing to his specimen not being in flower. This one error, which seems never before to have been traced to its source, gave rise to all the controversy which has at different times divided Botanists on this subject. For further details on this point I beg to refer to a short paper of mine published in the 9th volume page 130, of the *Madras Journal of Science*. To save unnecessary repetitions in explaining the plates I here subjoin the generic characters of the genus *Cinnamomum*, with such explanations as may be necessary to make them clearly understood.

*Cinnamomum*. Flowers bisexual or polygamous, calyx 6-cleft in a double series, the upper half of each segment separating from the cup-shaped tube. Stamens 12, in a quadruple series, the two outer rows fertile, opposite the segments of the calyx and opening inwards, the third row also fertile, opposite the outer series turned outwards and bearing on the filaments two glands, (staminodia) the 4th series sterile, opposite the second. Anthers ovate, 4-celled, opening by valves, the inferior cells larger, lateral, the sterile ones ovate, capitate. Ovary 1-celled, with one ovule. Stigma discoid. Berry 1-seeded, the base embraced by the enlarged 6-toothed persistent cup-shaped base of the calyx.—Indian trees yielding aromatic bark, the leaves nerved, approximated by pairs or opposite, flowers panicled or fasciated without involucre, the buds naked.

In some of the following dissections of the flowers of *Cinnamomum*, the four series of stamens are represented separately two and two, that is, the two outer rows are left attached to the segments of the calyx, while the inner ones which usually easily separate are represented distinct, by which means the staminodia, or glands, and sterile stamens are more clearly shown, and the confusion which might arise from bad printing, or otherwise, avoided. The following character of the genus *Litsæa* is copied from Professor Endlicher's most valuable *Genera Plantarum*. It is slightly modified from Nees' character of *Tetradenia*, a name pre-occupied for a genus of *Labiale*, and therefore inadmissible here.

*Litsæa* (Juss.) Flowers dioicous, the buds covered with scales. Male calyx 4-5, or 6 parted, deciduous. Male stamens 6, of which 4 or the two interior ones have two glands at the base. Anthers introrse, 4-celled, the 4 valves ascending.—Female—Stamens 4-6, thickened above opposite the segments of the calyx, 4 sessile glands surrounding the ovary, either approximated by pairs or attached to the 5 and 6th sterile filaments. Ovary 1-celled, 1-ovuled, style short; stigma discoid. Berry 1-seeded, naked, placed on a pedicel thickened at the apex.—Indian trees with alternate nerved leaves, flowers axillary, fasciated, flower-buds sessile, in pairs, or several densely imbricated with deciduous scales.

A reference to the figure No. 132, will render most of these characters sufficiently obvious; it being borne in mind that they vary somewhat in different species. It may however be remarked here that the drawing is made entirely from dry specimens, and on some points, owing to the minuteness and difficulty of displaying the parts of the flower, not quite so perfect as I could wish.

In the arrangement of my materials for this Number, I regret that more attention was not paid in the first instance, as, had that been done, a methodical in place of a chance distribution of the species might have been affected.

## EXPLANATION OF PLATES.

122 & 122, bis. *Cinnamomum iners*. Nees.

1. Flowering branch, *natural size*—2. A flower—3 and 4. The same dissected—5. The inner series of stamens shown separately to prevent the confusion and difficulty in understanding the structure, which results when shown *in situ*—6. The ovary cut vertically, showing the solitary ovule—7. Cut transversely—8. A mature fruit, *natural size*—9. The same cut vertically—10. Transversely, *with the exceptions mentioned, all more or less magnified*.

The specimen represented in the first of these figures was communicated by Dr. Wallich from the Calcutta botanic garden. The one in fruit which was examined, and named by Professor Nees, is from Malabar.

123. *Cinnamomum zeylanicum*, *natural size*—2. A flower—3-4. The same dissected—5-6. The ovary cut vertically and transversely—7. A mature fruit—8-9. The same cut vertically and transversely—10. The embryo, *all more or less magnified*.

The specimen figured was gathered in the Cinnamon gardens of Colombo, this, though I apprehend not the finest variety, was adopted as coming from the best native station, in preference to others not raised in Ceylon.

124. *Cinnamomum nitidum*, *natural size*—2. A dissected flower—3. A stamen of the outer series—4. A sterile stamen—5. A stamen of the inner series with its glands—6. The ovary cut transversely—7. Vertically—8. A full grown fruit—9. The same cut vertically—10. The embryo, *all more or less magnified*.

Copied from Roxburgh's drawing.

125. *Cinnamomum ovalifolium*, (R. W.) Young branches quadrangular, and with the under surface of the leaves villous, leaves ovate, obtuse, panicles axillary, shorter than the leaves, few flowered.

Hab: Woods, Ceylon.

1. Flowering branch, *natural size*—2-3. A dissected flower—4-5. Ovary cut vertically and transversely—6. A portion of a leaf magnified to show the villi—*all more or less magnified*.

Specimens communicated by Colonel Walker.

126. *Cinnamomum multiflorum*,  $\beta$  R. W.

1. Flowering branch, *natural size*—2-3. The flower dissected—4-5. The ovary cut transversely and vertically, *more or less magnified*.

The specimen was received from Ceylon, and though apparently the same species differs sufficiently from Roxburgh's plants No. 131, to entitle it to rank as a distinct variety.

127. *Cinnamomum villosum*, (R. W.) All the younger parts of the plant clothed with soft villous pubescence: branches terete, leaves ovate, lanceolate, acute, panicles stalked, diffuse, about the length of the leaves.

Hab: Ceylon in woods.

This species seems closely allied to the true Cinnamon, and may be the *C. perpetuo florens* of Burman, though that appears doubtful. It is principally distinguished by its pubescence.

1. Flowering branch, *natural size*—2-3. A dissected flower—4-5. Ovary cut vertically and transversely—6-7. Portions of a leaf magnified to show the pubescence on both sides—*all more or less magnified*.

128. *Laurus cassia*, Bot. Mag. 1636. This in the estimation of Nees von Esenbeck is a variety of the true Cinnamon plant, an opinion in which after repeated comparisons with both growing plants and dried specimens, I cannot coincide, though I am unable to say to what species it is referable.

Copied from the Botanical Magazine.

129. *Laurus cinnamomum*, Bot. Mag. 2028. This I at first considered a variety of the former, and on that supposition have doubtfully named it *C. zeylanicum*, a more careful examination has led me to alter my opinion, and now I think it a variety of 136, *C. aromaticum*, Nees.

This like the preceding is copied from the Botanical Magazine.

130. *Cinnamomum iners*. *Carua*—Rheede, Hort. Mal. This like 128 is quoted by Nees as a variety of *C. zeylanicum*, but in my opinion is much more correctly referable to *C. iners*. This is one of the plants quoted by Linneus as his *Laurus cassia*. It is totally different from the Ceylon plant which he had before him (No. 132) and described in the Flora zeylanica.

This figure is copied from Rheede's Hort. Mal.

131. *Cinnamomum multiflorum*, Nees—*Laurus multiflora*, Roxb. *natural size*—2-3. A dissected flower.

This figure is copied from Roxburgh's drawing, a native of Ceylon.

132. *Litsæa zeylanica*, Nees—*Tetradenia zeylanica*, Nees—*Laurus cassia*, Lin. *natural size*—2. A flower-bud unopened—3. The same, the involucre opened and spread out to show the enclosed flowers *in situ*—4. The involucre with the flowers in a very early stage—5. A flower unopened—6. The same opened—7. The glandiferous stamens back and front views—8. Stamens of the outer series back and front views—9. The ovary—10-11. The same cut vertically and transversely—12. A mature fruit, *natural size*—13. The seed—14-15. The seed cut vertically and transversely, the former showing the embryo *in situ*—*with the exceptions mentioned, all more or less magnified*.

The flowers of the fertile plant of this species are, it appears, bisexual.

The specimen figured is from Ceylon.

133. *Cinnamomum? recurvatum*. *Laurus recurvata*, Roxb.—2. A dissected flower—3. A sterile stamen.

Copied from Roxburgh's drawing—I do not find this species in Nees' enumeration of Indian Laurine, and not being in fruit I am not sure that it is a species of *Cinnamomum*, hence the mark of doubt.

134. *Cinnamomum zeylanicum*,  $\gamma$  Nees, *natural size*—2-3. A dissected flower—4-5. Ovary cut vertically and transversely.

The specimen from which the drawing was made was communicated, along with many more Ceylon Laurine, by Colonel Walker. The branches and leaves are glabrous, the flowers somewhat hairy, fruit I have not seen. This it appears to me is identical with Burman's *Cin: perpetuo florens*—and certainly a variety of *C. zeylanicum*.

135. *Cinnamomum dubium*, Nees.—The analysis as in the preceding. The specimen from which this figure is taken was compared with one in my herbarium, named as above by Professor Nees, and found accurately to correspond. One of the magnified flowers in the upper corners is taken from the specimen named by Nees.

Hab: Ceylon.

136. *Cinnamomum aromaticum*, Nees. Copied from the Botanical Repository, No. 596.

This figure is quoted by Nees as a correct representation of his *C. aromaticum*; the species which yields the China Cinnamon, or first sort Cassia of the European market.

137. *Cinnamomum Culilawan*, Nees—*Laurus Culilaban*, Roxb. This figure is copied from Roxburgh's drawing.

138. *Cinnamomum dulce*, Nees—*Laurus dulcis*, Roxb. *natural size*—2. A dissected flower—3. Sterile stamen—4. Fruit.

Copied from Roxburgh's figure.

139. *Cinnamomum obtusifolium*, Nees—*Laurus obtusifolia*, Roxb. *natural size*—2. A dissected flower—3. Glandiferous stamen—4. A separate gland—5. A berry—6. The same cut vertically—7. The embryo?

Copied from Roxburgh's figure.

140. *Cinnamomum albidum*, (Wall.) *Laurus cassia*, Roxb. *natural size*—2. A dissected flower—3. Detached fertile stamens—4. A sterile stamen—5. A berry—6-7. Cut vertically and transversely.

Copied from Roxburgh's drawing.

141. *Cinnamomum perpetuo florens*, Burm.—Copied from Burman's *Thesaurus Zeylanicus*.





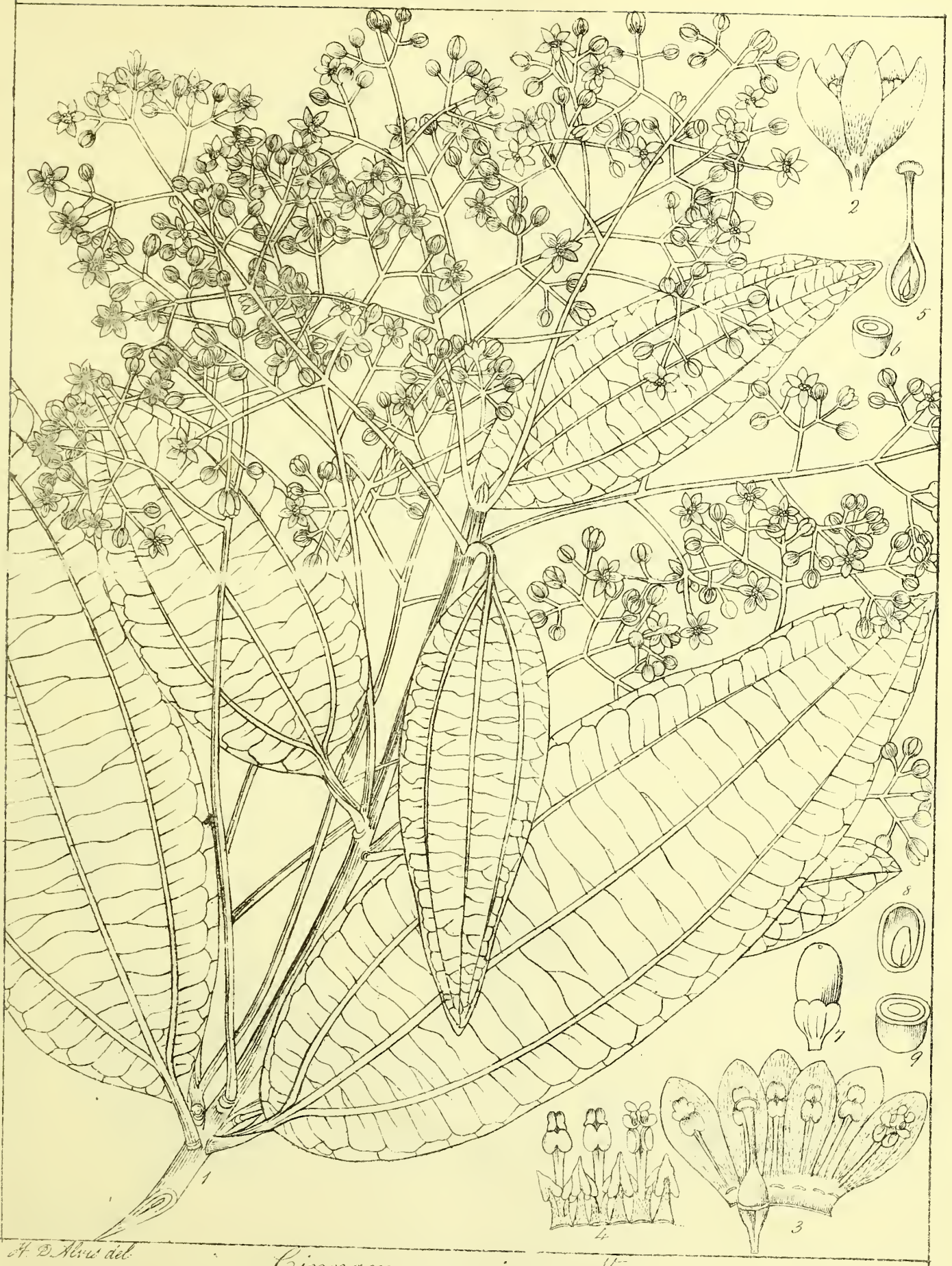
H. D. Alwis. del.

R. W. Lith

*Cinnamomum iners!* (Nees)





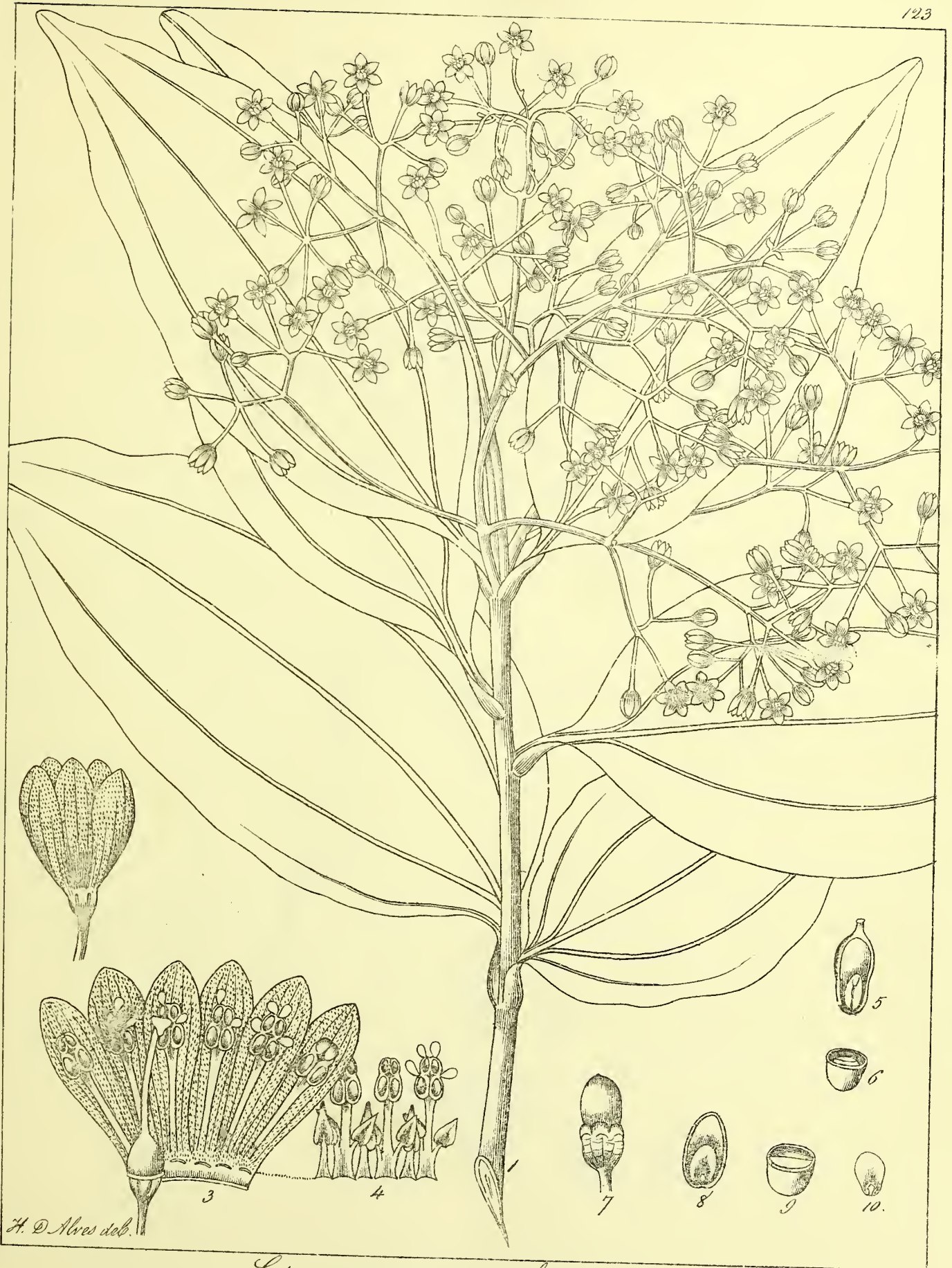


H. D. Alru del.

*Cinnamomum iners* (Nees)





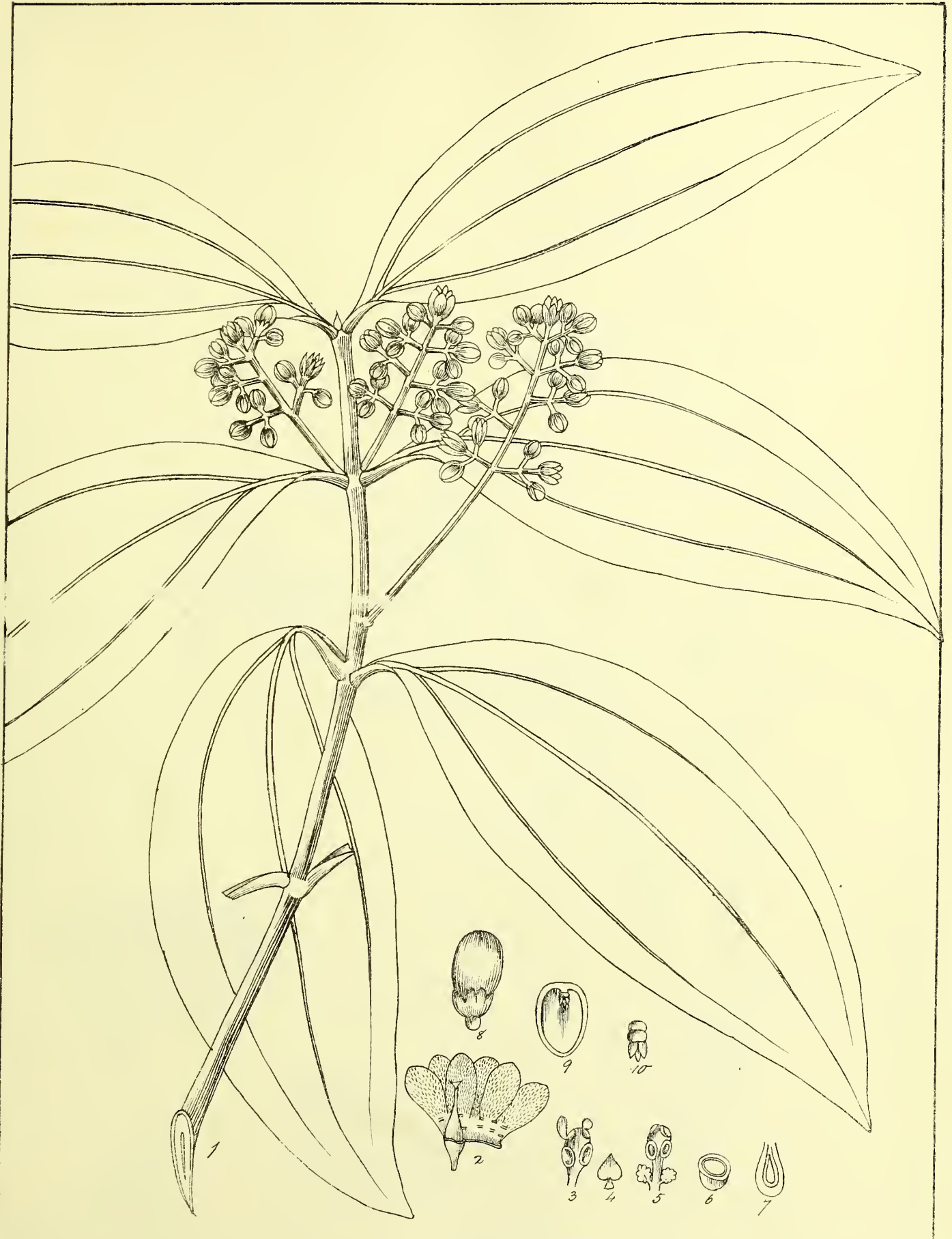


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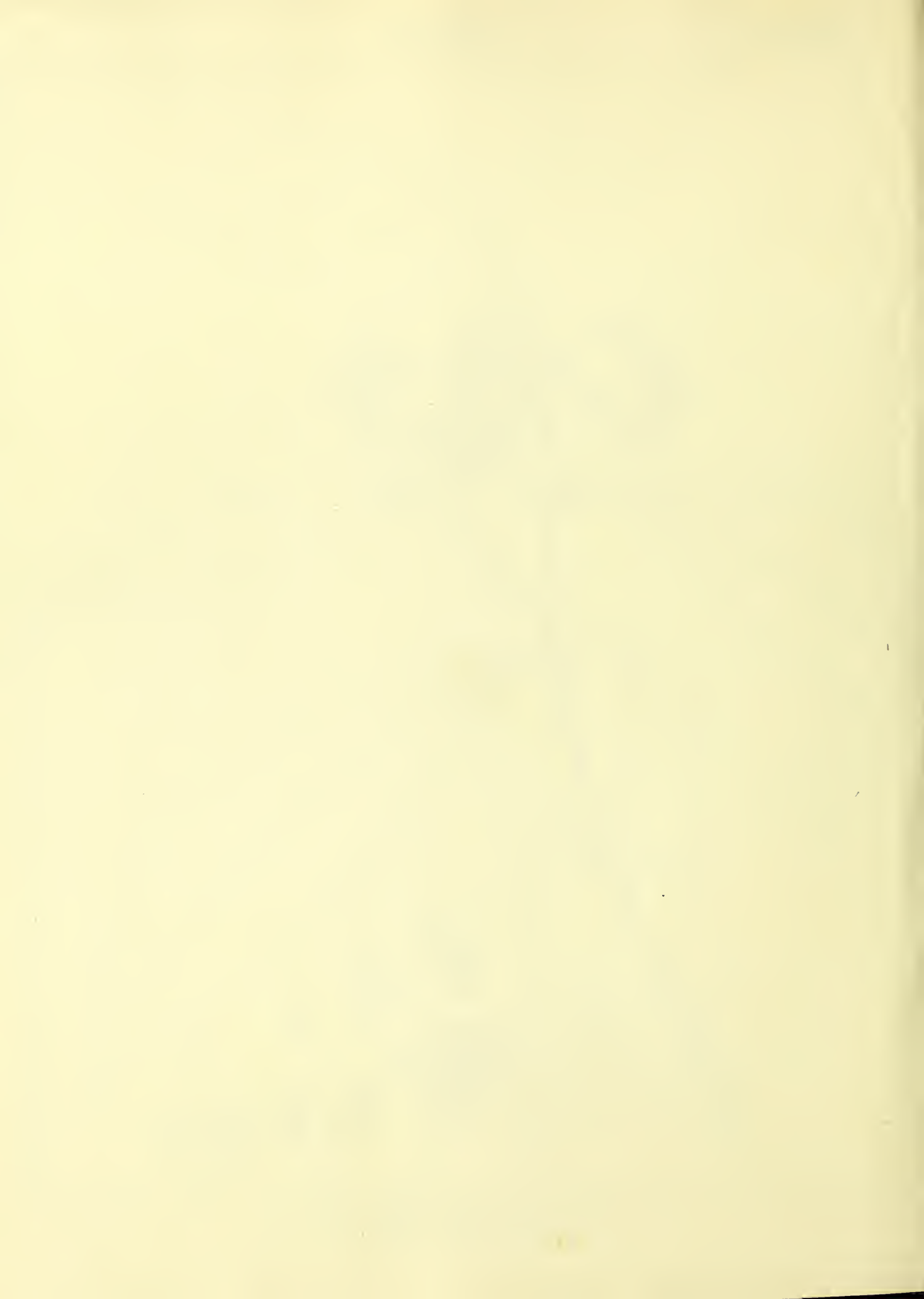
*Cinnamomum zeylanicum.*







*Cinnamomum Nitidum* (Nees)  
*Laurus Nitida* (Roxb.)



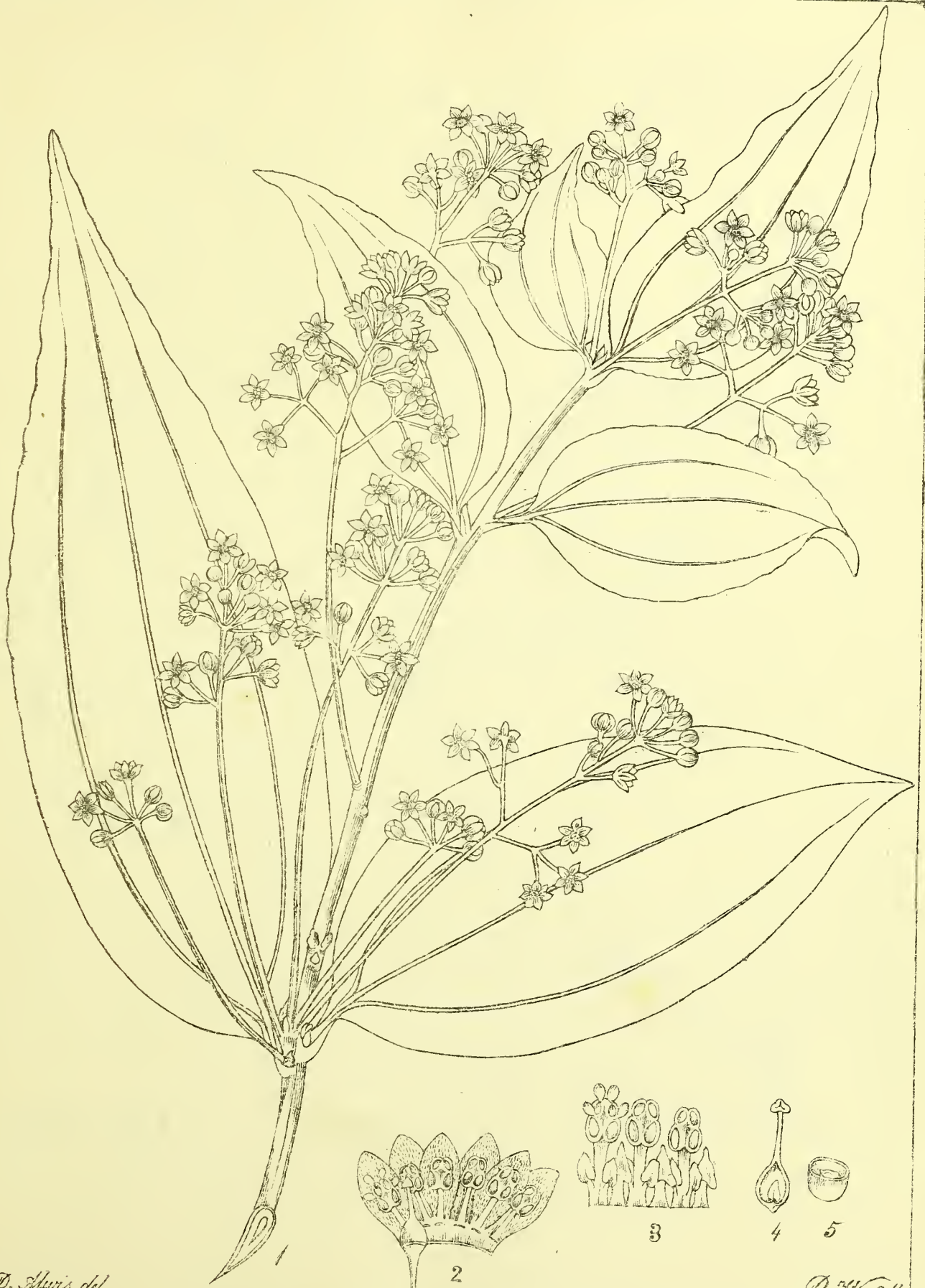


H. D. Alves del.

*Cinnamomum arilifolium* (R.W.)





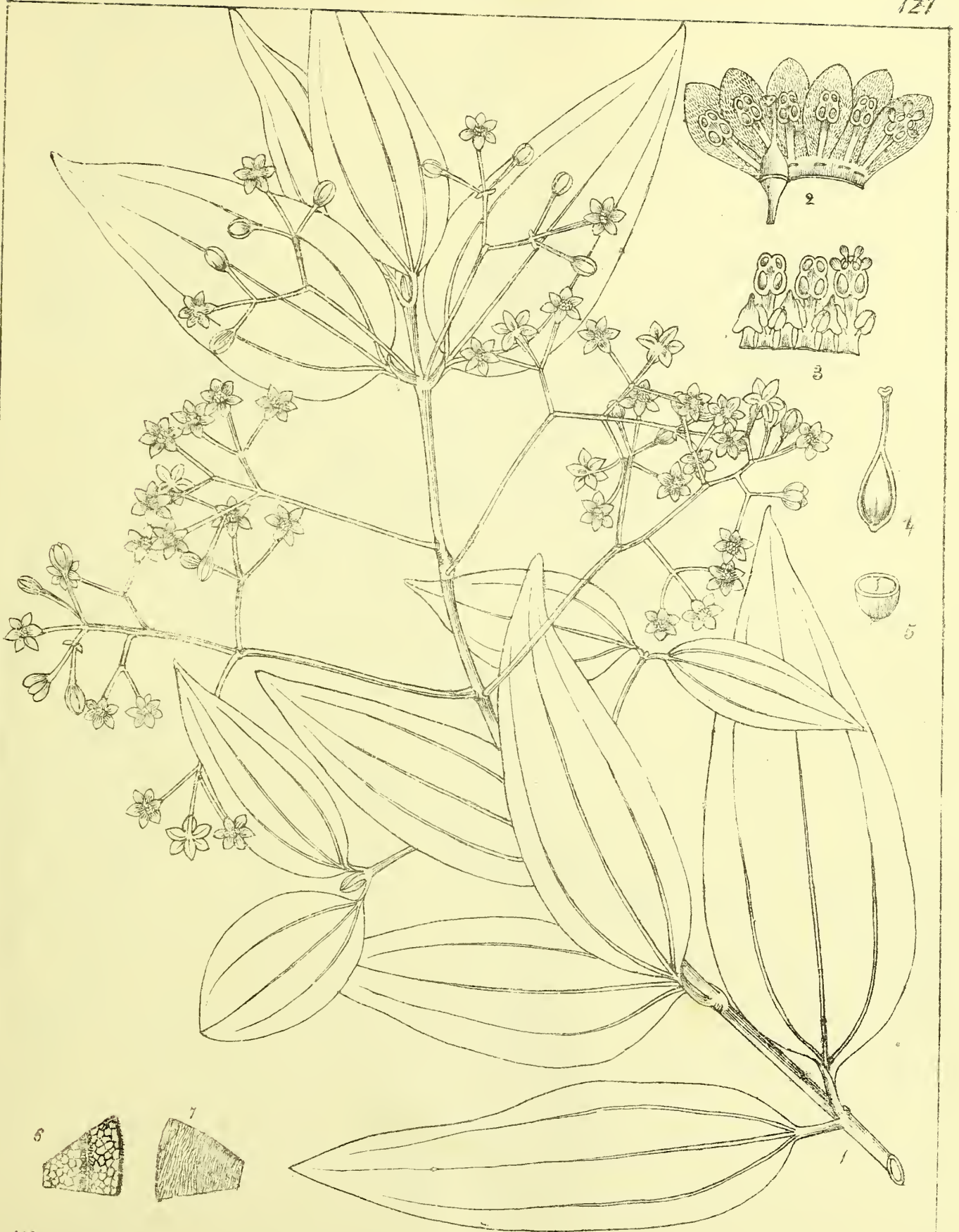


H. D. Morris del

R. W. Lill

*Cinnamomum multiflorum* B. R. W.





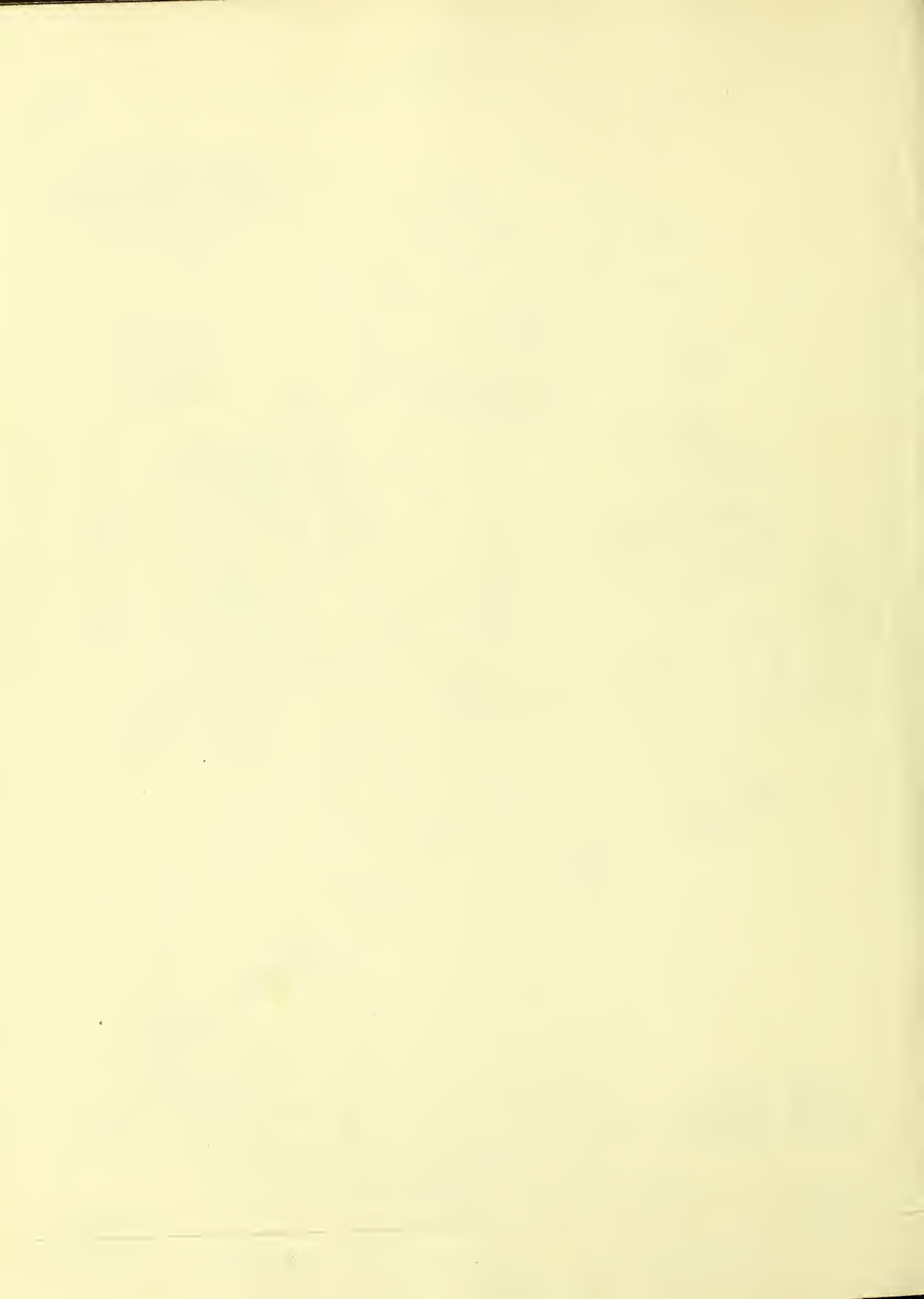
H. B. Morris del.

R. W. Loh

*Cinnamomum villosum*. (R. H.)

*Cinnamomum perpetuo florens* ? Burm.

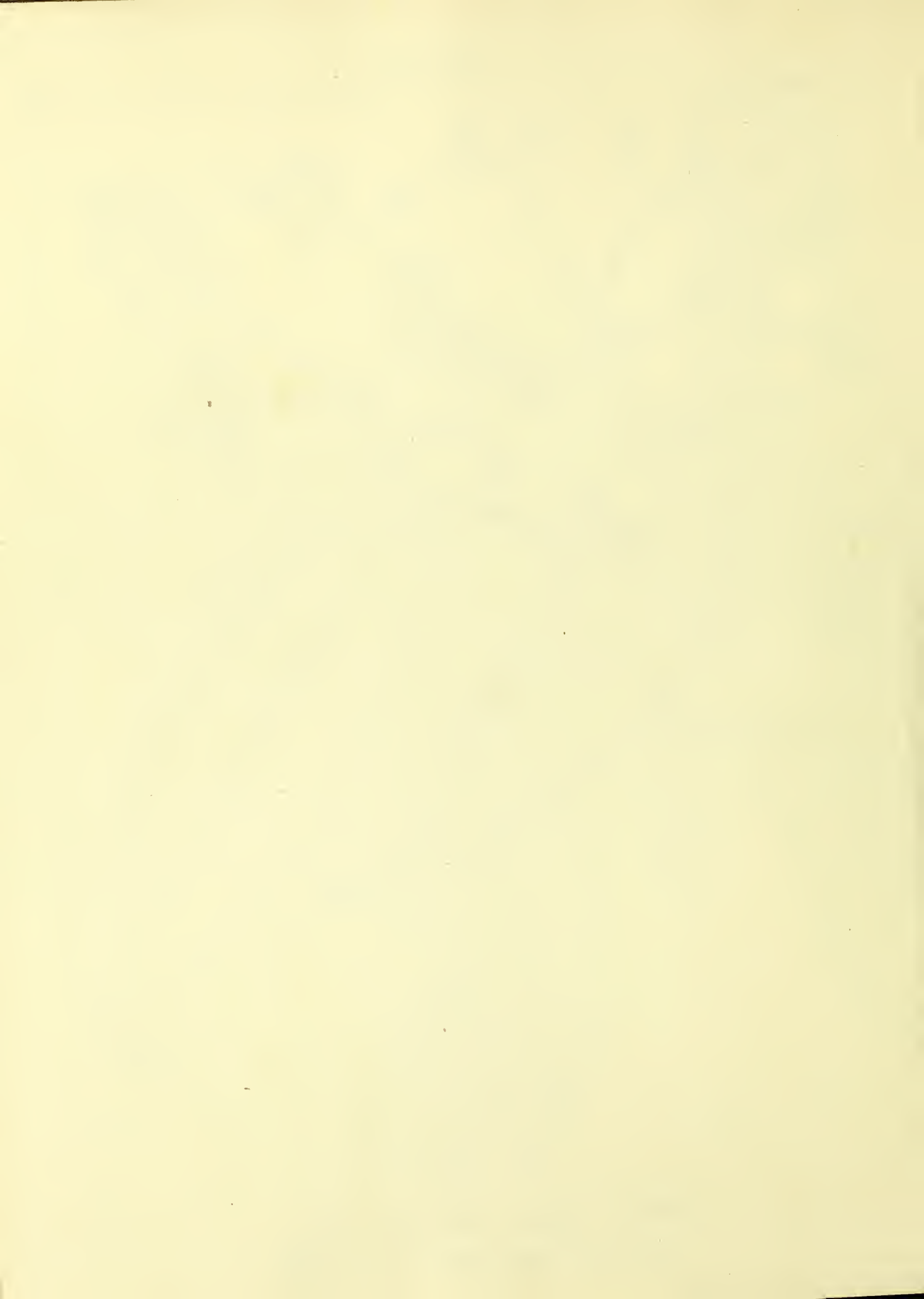






*Saururus Cypria. Bot. mag. 1636.*

*Cinnamomum Zeylanicum. Y (New)*



*Laurina.*



*Laurus cinnamomum. Bot. mag. 2028.*







*Cinnamomum iners*  
*Cavua. Hort: mal: 1. tab 51*





*Laurus multiflora* Roxb  
*Cinnamomum multiflorum*







H. D. Alvis

*Laurea zeylanica* Vries  
*Laurus Cassia* Trin.





R. W. Sch.

*Saururus recurvata*. (Roxb.:)

*Cinnamomum ? Recuratum*.

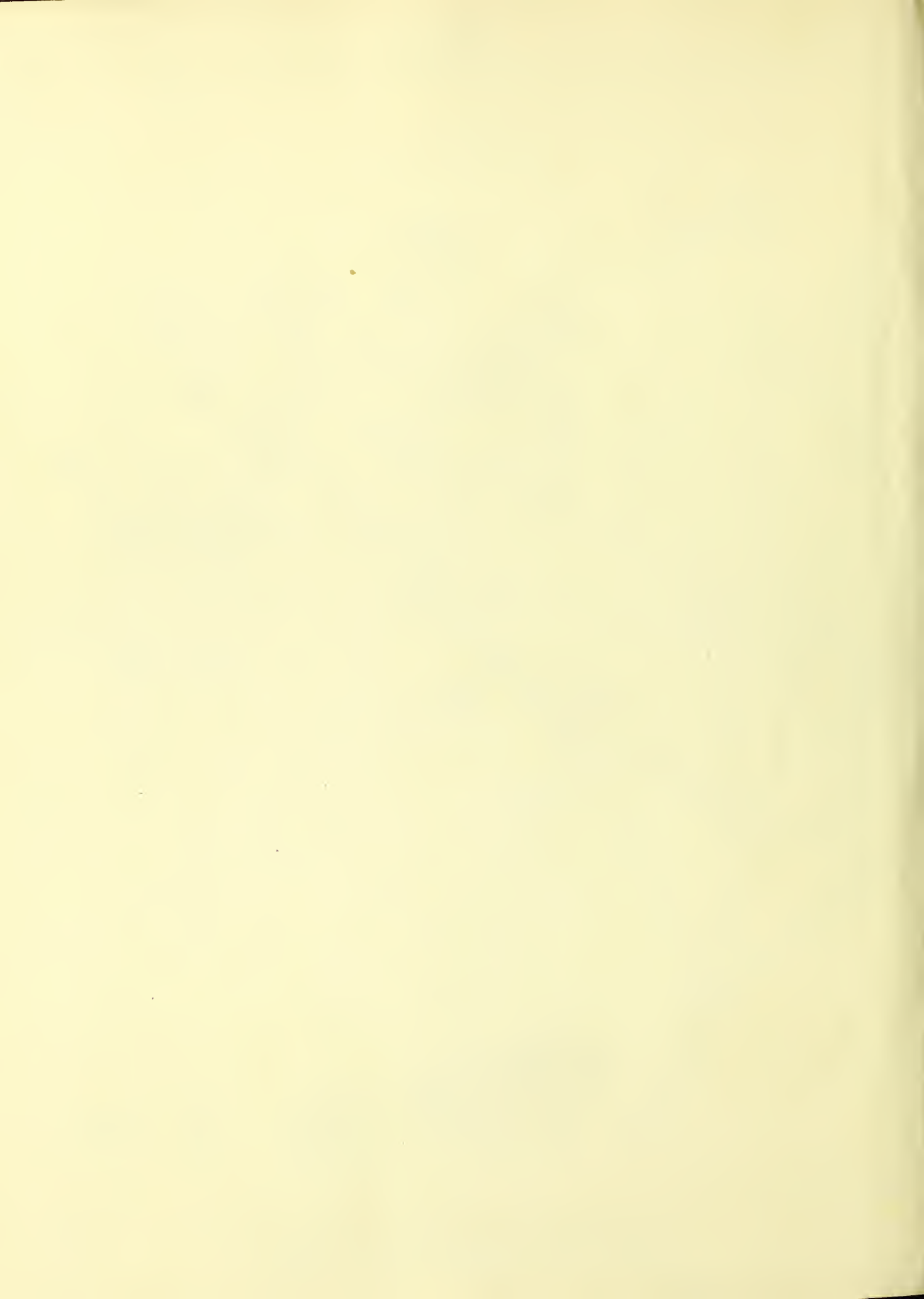


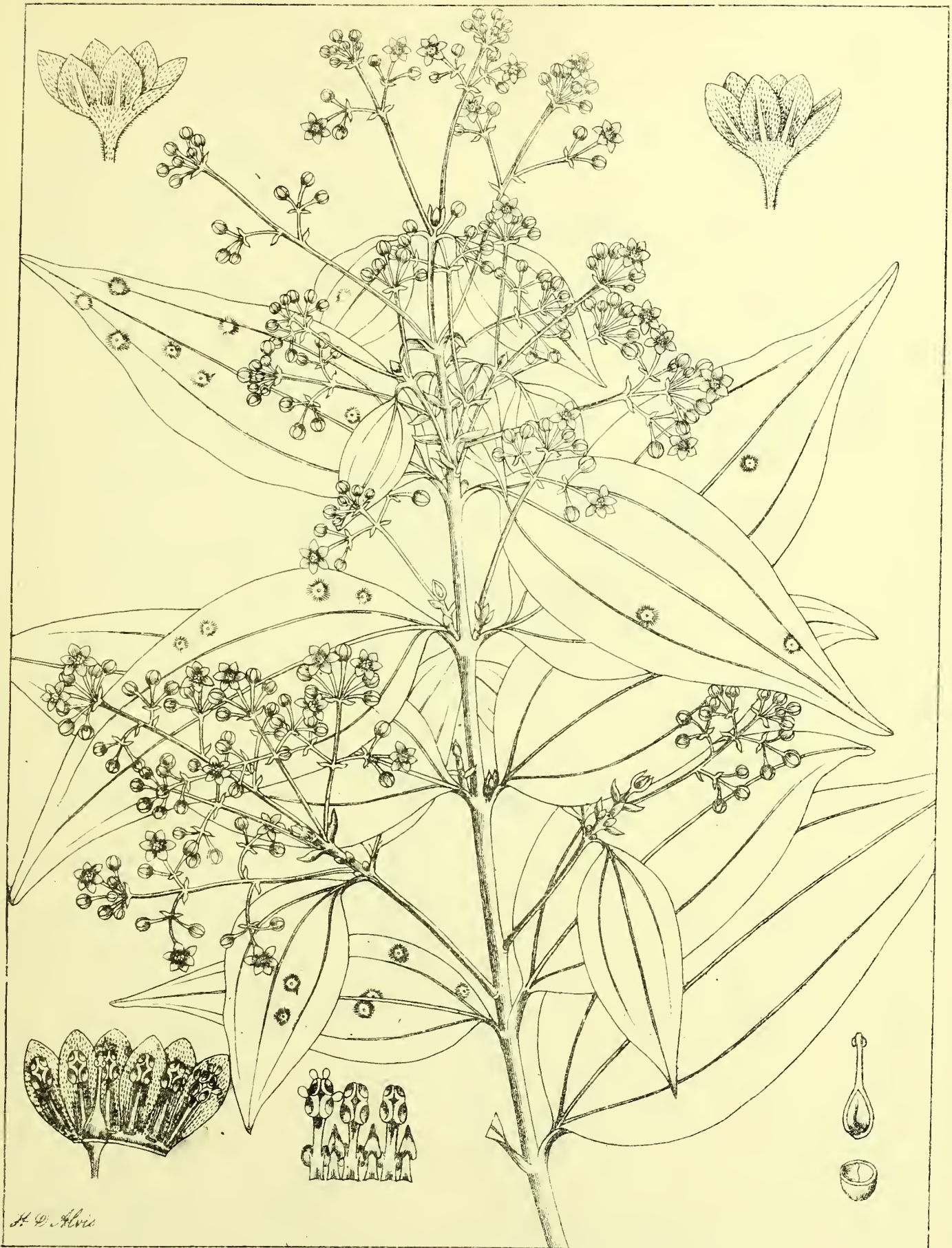




H. D. Alms

*Cinnamomum zeylanicum*. Vees  
*Cinnamomum perpetuo florens*? Burm.



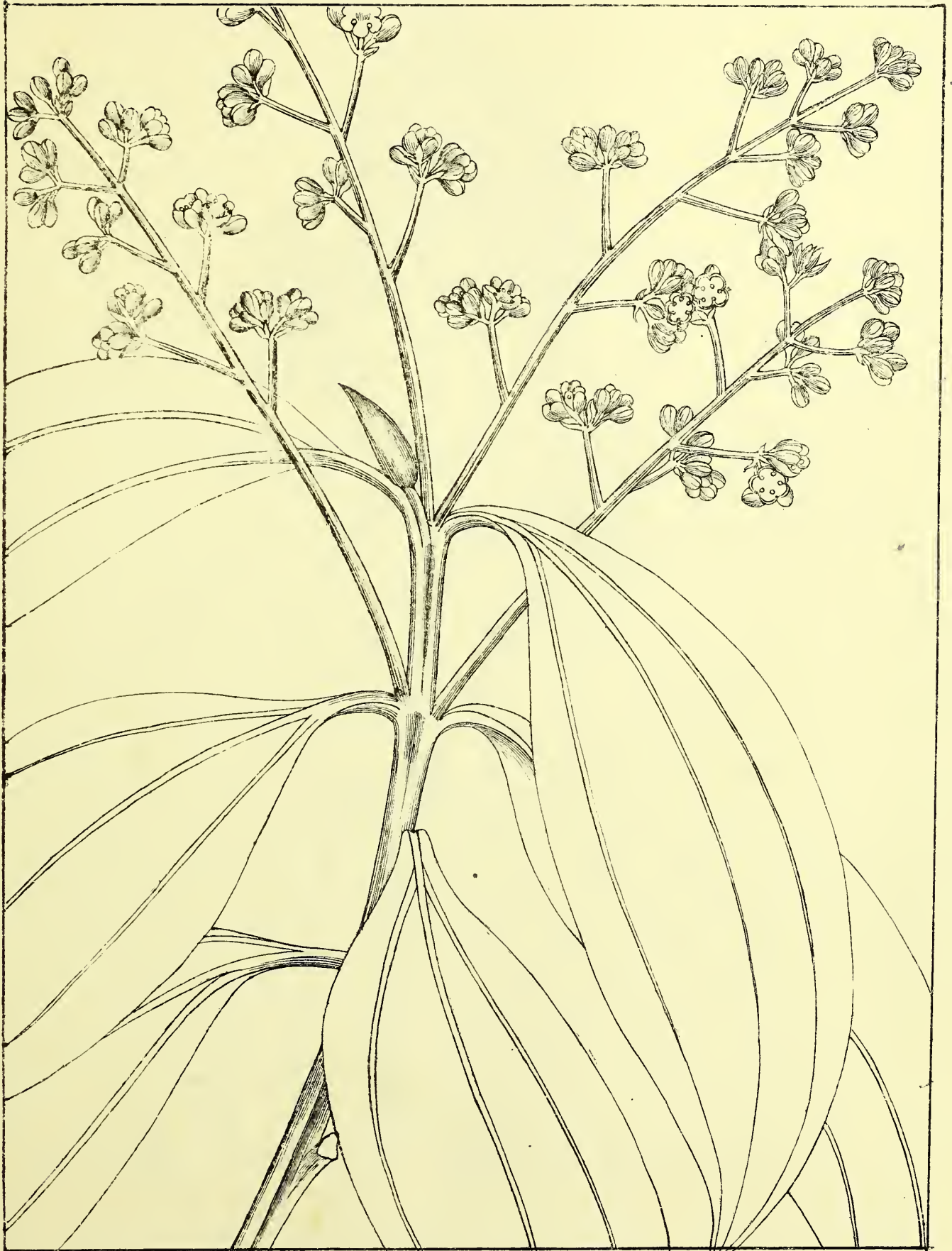


H. D. Davis

*Cinnamomum dubium Nees*







*Cinnamomum aromaticum. Nees.*

*Saurus Cinnamomum. Bot. Rep. N. 596*





*Cinnamomum Culittawan.*  
*Saurus culittabon.* (Roeb.)







*Cinnamomum dulce*  
*Laurus dulcis.* (Roxb.)





*Cinnamomum obtusifolium* (Nees)  
*Laurus obtusifolia* (Roxb.)





*Arbutifolia*.

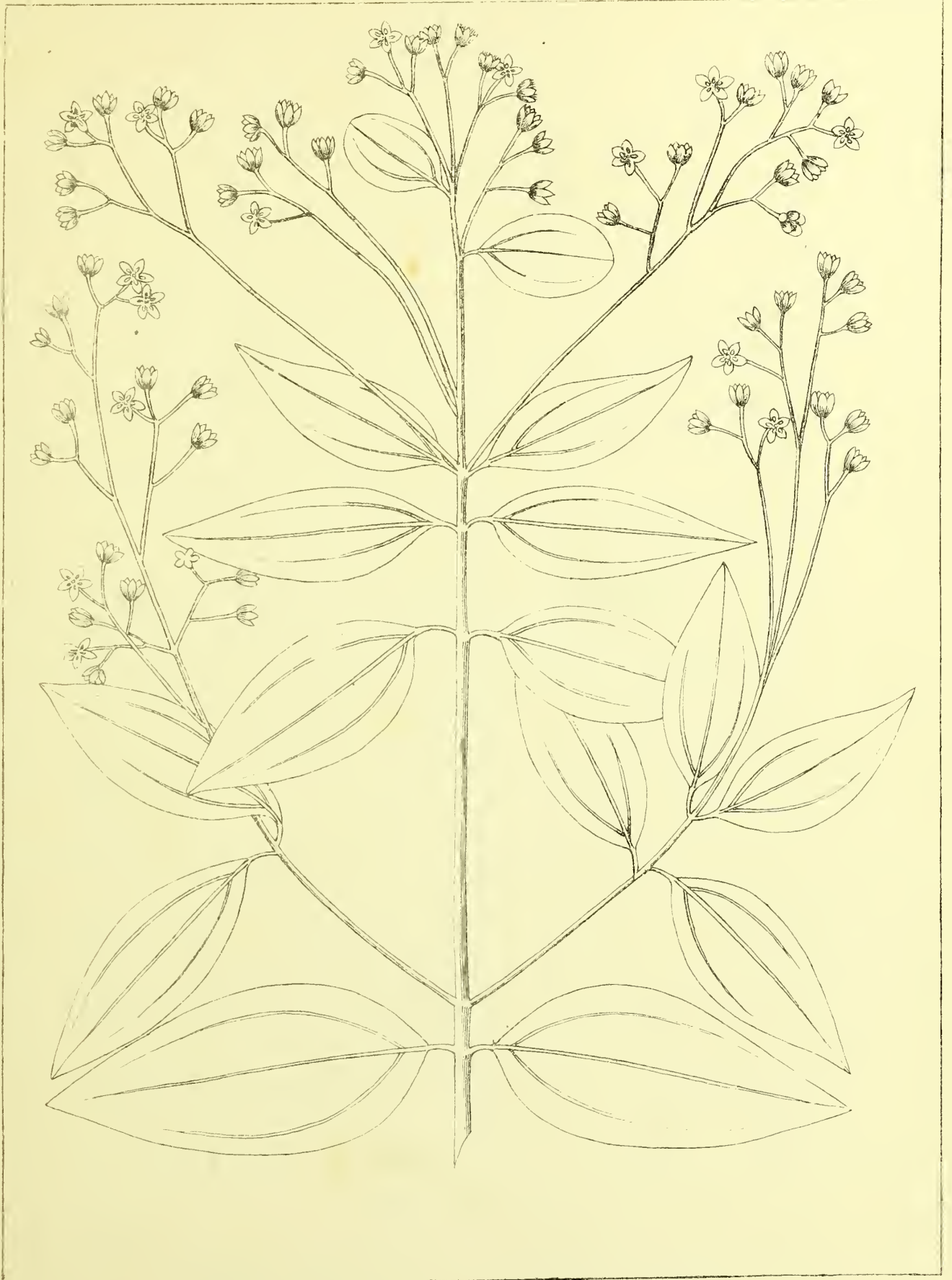
*Laurina*.

140



*Cinnamomum alliflorum* (Vees)  
*Laurus Cassia* (Roxb.)





*Cinnamomum perpetuo florens (Burm.)*





# THE HISTORY OF THE CITY OF BOSTON

The city of Boston, situated on a peninsula in the State of Massachusetts, was first settled in 1630 by a group of Puritan settlers. The city grew rapidly and became one of the most important centers of commerce and industry in the New England region. In 1773, the city was the site of the Boston Tea Party, a significant event in the American Revolution. The city was then occupied by British troops from 1768 to 1793. After the war, the city continued to grow and became a major center of industry and commerce. In 1822, the city was incorporated as the City of Boston. The city has since become one of the most important cities in the United States, known for its rich history, culture, and industry.

## No. VIII.

### EXPLANATION OF PLATES.

142. *Loranthus memecylifolius*—*natural size*.

2. A flower split open, showing the attachment of the stamens to the corolla—3. Ovary, style and stigma.

143. *Loranthus Wallichianus*—*natural size*.

2. Corolla laid open—showing the attachment of the stamens—3. Anthers back and front views—4. Ovary—5-6. The same cut transversely and vertically.

The specimen from which this drawing was made was collected on the Neilgherries, and communicated by Lieut. Munro.

144. *Vitis adnata*, flowering branch—*natural size*.

2. An expanded flower—3-4. The ovary cut transversely and vertically—5. A full grown berry—6-7. The same cut transversely and vertically.

Copied from Roxburgh's drawing.

145. *Vitis auriculata*, flowering branch—*natural size*.

2-3. The ovary cut transversely and vertically—4. A full grown berry—5. The same cut vertically—6. Cut transversely—7. A seed—8. The same cut vertically, to show the embryo—9. The embryo removed.

Copied from Roxburgh's drawing.

146. *Guaria paniculata*, *Roxb.*—(*Disoxylum paniculatum*, Arn.)

2. A dissected flower—3. The stamen tube split open—4. An anther—5-6. The ovary cut transversely and vertically—7. A full grown capsule—8. The same opened, showing two cells with their contained seed—9. Back and front views of the seed—"Seed solitary, round or oval, considerably flattened, interior half yellow, in the middle of which is a large whitish flat umbilicus; exterior half of a smooth shining chestnut colour, across which is a trifling marking, the separation of the transverse cotyledons." *Roxb. Fl. Ind.*

Copied and somewhat reduced from Roxburgh's drawing.

147. *Careya sphaerica*, *Roxb.* A flowering branch—*natural size*.

2. A portion of the stamiferous ring, showing the three sets of filaments, the inner series short, the middle longer and fertile, the outer longest and sterile—3. The ovary with its bractea detached—4. The ovary cut transversely, 4-celled—5. The same cut vertically—6. A full grown fruit—7. A transverse section of the same—8. A seed—9. The same cut transversely, showing the large albumen and central embryo—10. A seed germinating.

Copied from Roxburgh's drawing.

This genus is referred by most Botanists to *Myrtaceæ* & *Barringtoniæ*, but no character by which the sub-order may be distinguished is assigned, except its alternate leaves without semi-transparent dots. Mr. W. Griffith in a letter, hints, I think, (I have not now the letter at hand to ascertain) that both this and *Sonneratia* are more properly referable to *Lythraceæ*. I am not sure about the latter but I think that the remarkable conformation of the seed affords sufficient reason for removing both this and *Barringtonia*, from both *Myrtaceæ* and *Lythraceæ*, to form a distinct order approaching *Guttiferae* in the character of their seed.

148. *Pavetta indica*—*natural size*.

2. A flower magnified—3. A full grown fruit—4. The same cut transversely—5. The embryo.—Copied from Roxburgh's drawing.

149. *Ixora Bandhuca*, *Roxb.*—*natural size*.

2. The fruit—3. A fruit cut transversely—4. Vertically—5. The seed cut vertically, showing the embryo—6-7. Ovary cut transversely and vertically.

Copied from Roxburgh's drawing.

150. *Ixora villosa*, *Roxb.*—*natural size*.

2. A dissected flower—3-4. Ovary cut vertically and transversely—

5. A fruit—6. The same cut transversely—7. The embryo removed from the seed.

Copied from Roxburgh's drawing.

151. *Ixora fulgens*, *Roxb.*—*natural size*.

2. Ovary and style—3. A fruit full grown—4. The same cut transversely—5. Vertically—6. The embryo removed.

152. *Barringtonia racemosa*, *Roxb.*—*natural size*.

2. Ovary cut vertically—3. Transversely—4. A full grown fruit—*natural size*—5. The same after germination has commenced.

Copied from Roxburgh's drawing.

For some remarks on the natural order of this genus, see No. 147.

153. *Ixora coccinea*, *Linn.*—*natural size*.

2. A flower magnified—3. A fruit—4. The same cut transversely—5. A seed—6. Cut transversely—7. Vertically, showing the embryo *in situ*.

Copied from Roxburgh's drawing.

154. *Ahelmoschus fieulneus*.

2. The fruit cut transversely.

155. *Pleurostyliia Wightii*—*natural size*.

2. An expanded flower seen from above—3. Side view of the same—4. The ovary 1-celled, cut transversely above the discoid torus—5. A mature fruit—6. The same cut vertically, showing the seed and position of the embryo *in situ*—7. A seed removed from the capsule, showing the crustaceous aril-like testa split at the base—8. The same, the testa removed, so as to bring the globose seed into full view—9. The seed—10. The same cut transversely, showing the albumen and embryo—11. The embryo *in situ*—12. The same separated from the seed—all more or less magnified.

156. *Ipomœa pulchilla*—*natural size*.

2. Calyx, ovary, style and stigma—3. Tube of the corolla split open, to show the insertion of the filaments—4. A fruit cut transversely—all more or less magnified.

157. *Ipomœa chrysoides*.

2. Calyx, ovary, style and stigma—3. Corolla removed and split open, to show the attachment of the filaments, but owing to injudicious shading badly represented—4. A fruit cut transversely—all more or less magnified.

158. *Celastrus paniculata*.

2. An expanded flower seen from above—3. The same seen from below.

For further illustration of this species see Illustrations of Indian Botany, No. 72.

159. *Rhamnus Wightii*—*natural size*.

2. An expanded flower, showing the minute scale-like petals opposite the stamens—3. A fruit cut transversely, 3-celled, with one seed in each cell.

160. *Melea Azedarach*—*natural size*.

2. An expanded flower—3. The stamen tube split open, showing the position of the anthers, style, and lobed stigma—4. A full grown fruit—5. The same cut transversely, showing it a 5-celled drupe, with a solitary seed in each cell—6. The nut removed from its pulpy covering.

161. *Cedrela Toona*—*natural size*.

2. An expanded flower—3. The same, the corolla removed, showing the filaments free above united beneath, forming a cup round the base of the ovary—4. The ovary cut transversely, 5-celled, with two rows of ovules in each cell.



Rungiah. del.

R. W. Smith

*Loranthus memecylifolius.* (W. & A. :)





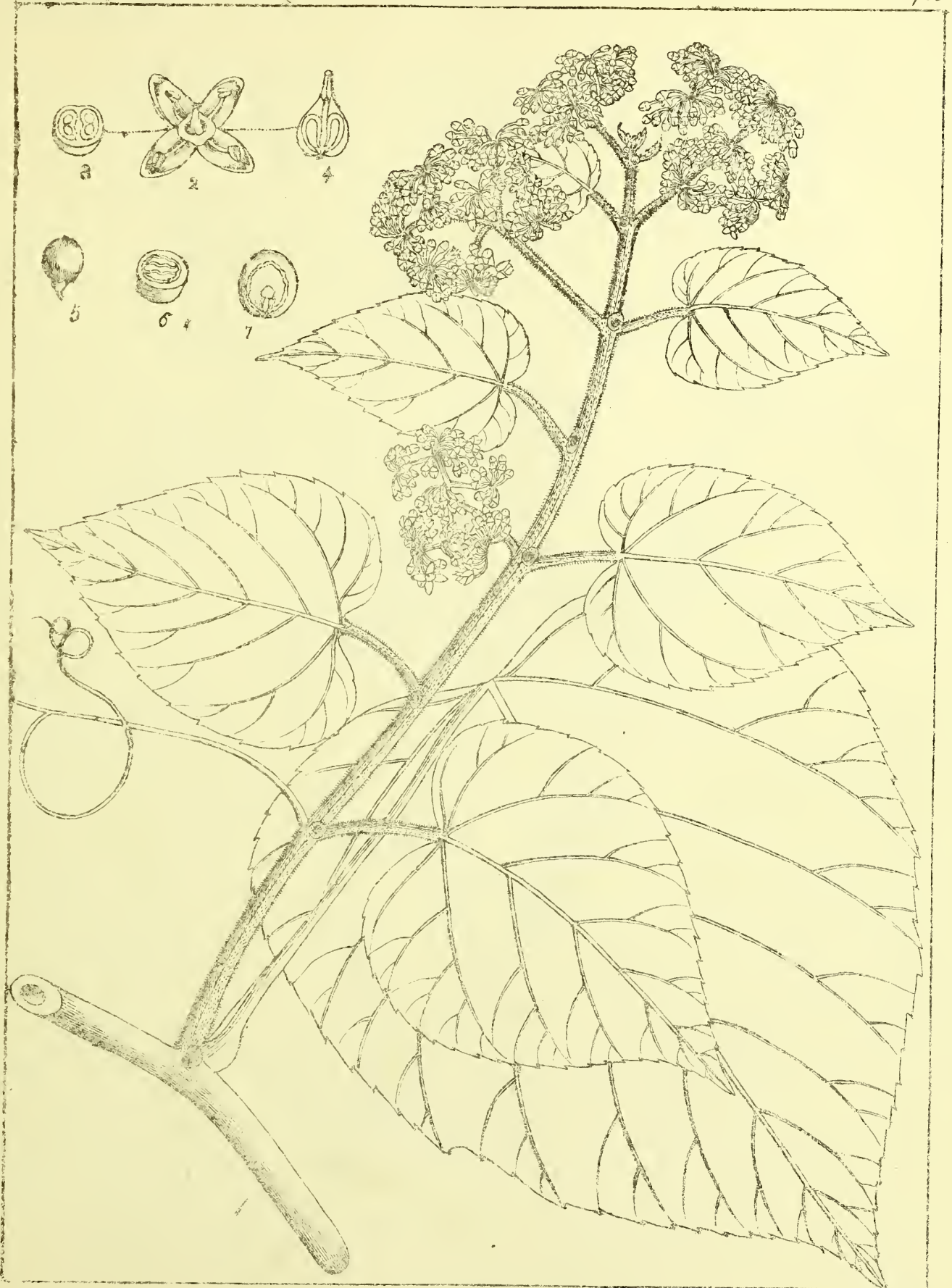


*Rungtiah del*

*R. W. Ditt.*

*Loranthus Wallichianus.* (Schult.:)

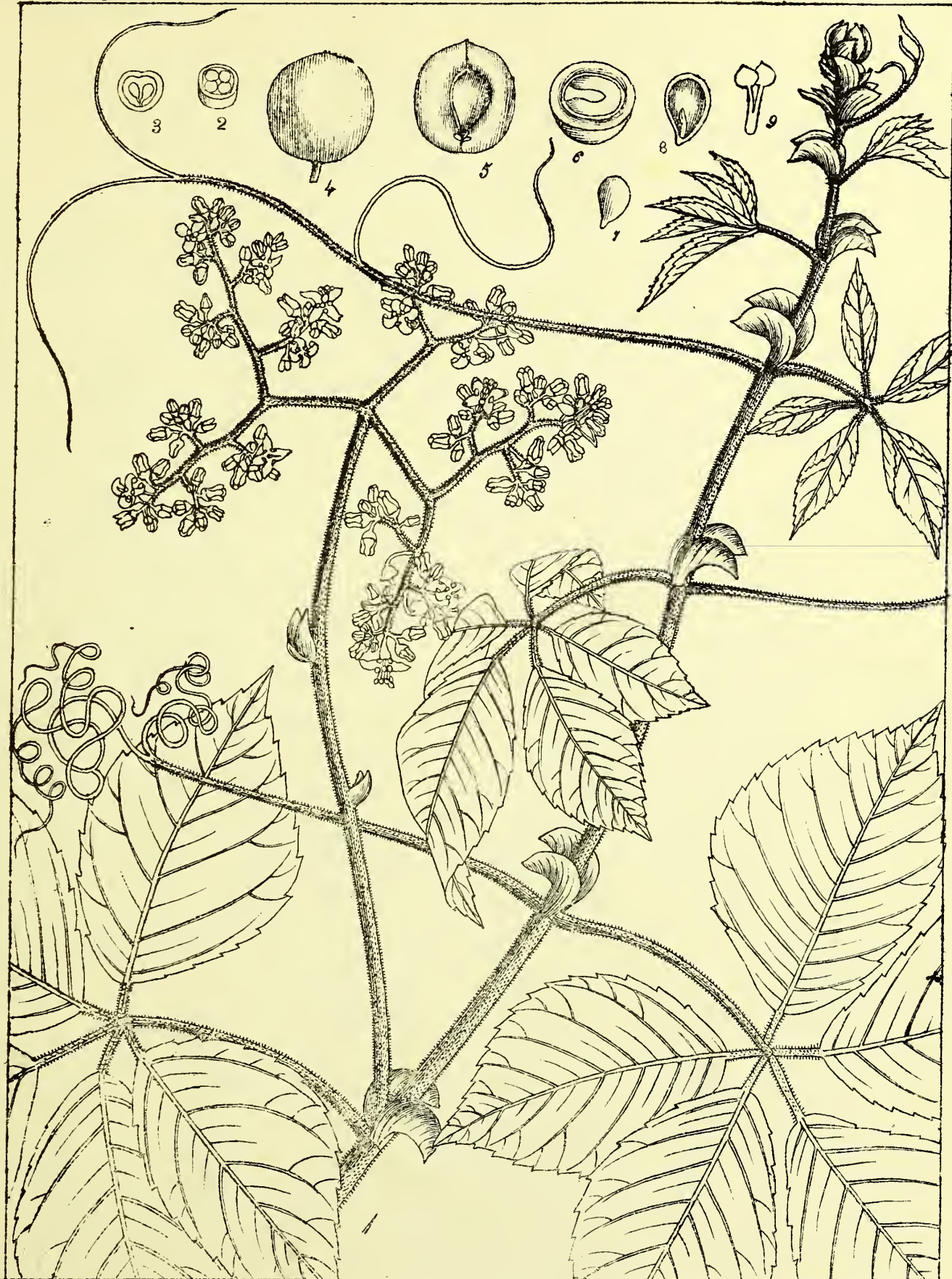




*Cissus adnata.* (Roxb.)  
*Vitis adnata.* (Wall.)





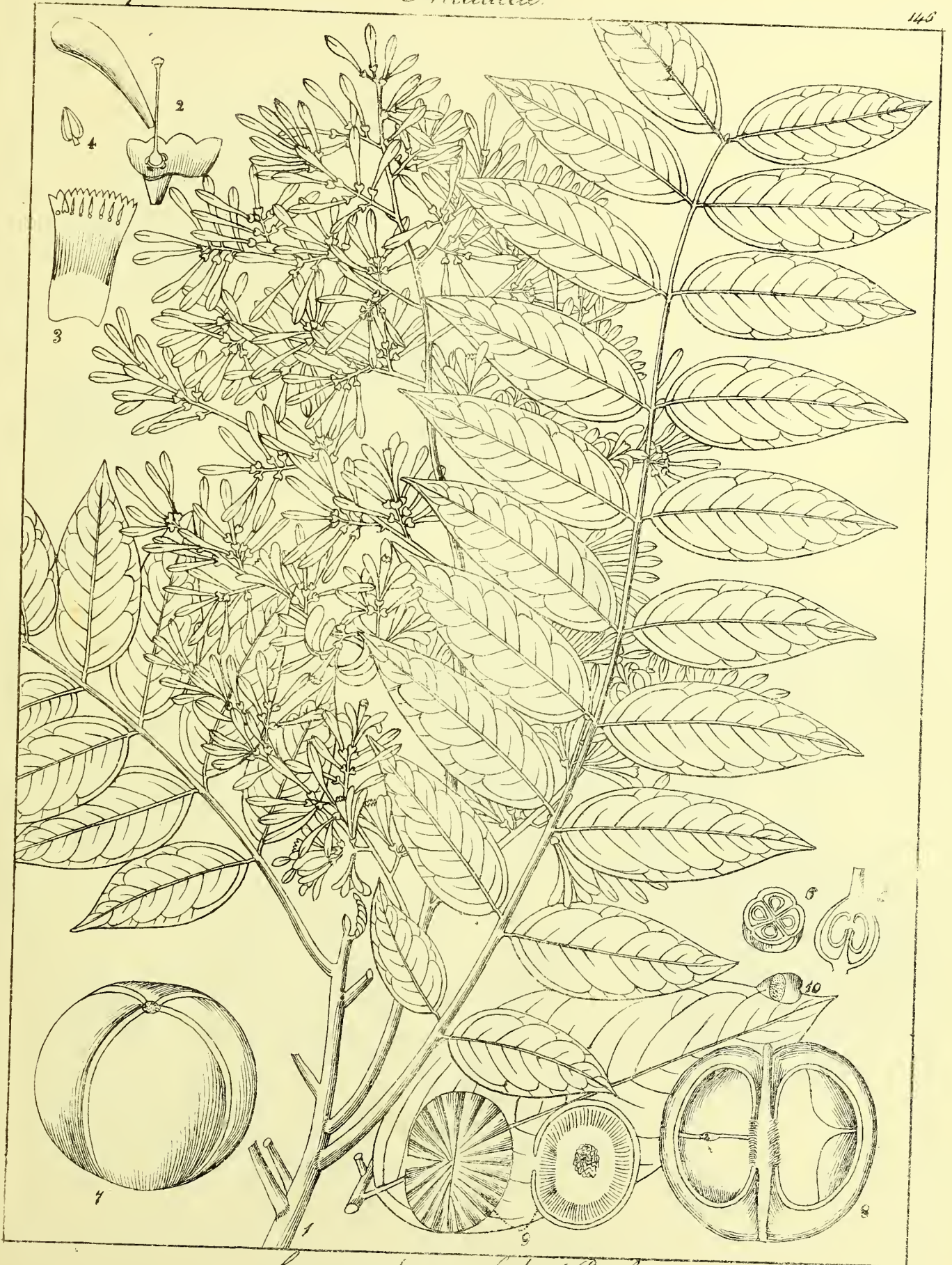


*Cissus auriculata* (Pissol.)  
*Vitis auriculata* (Wall.)

A. N. S. K.



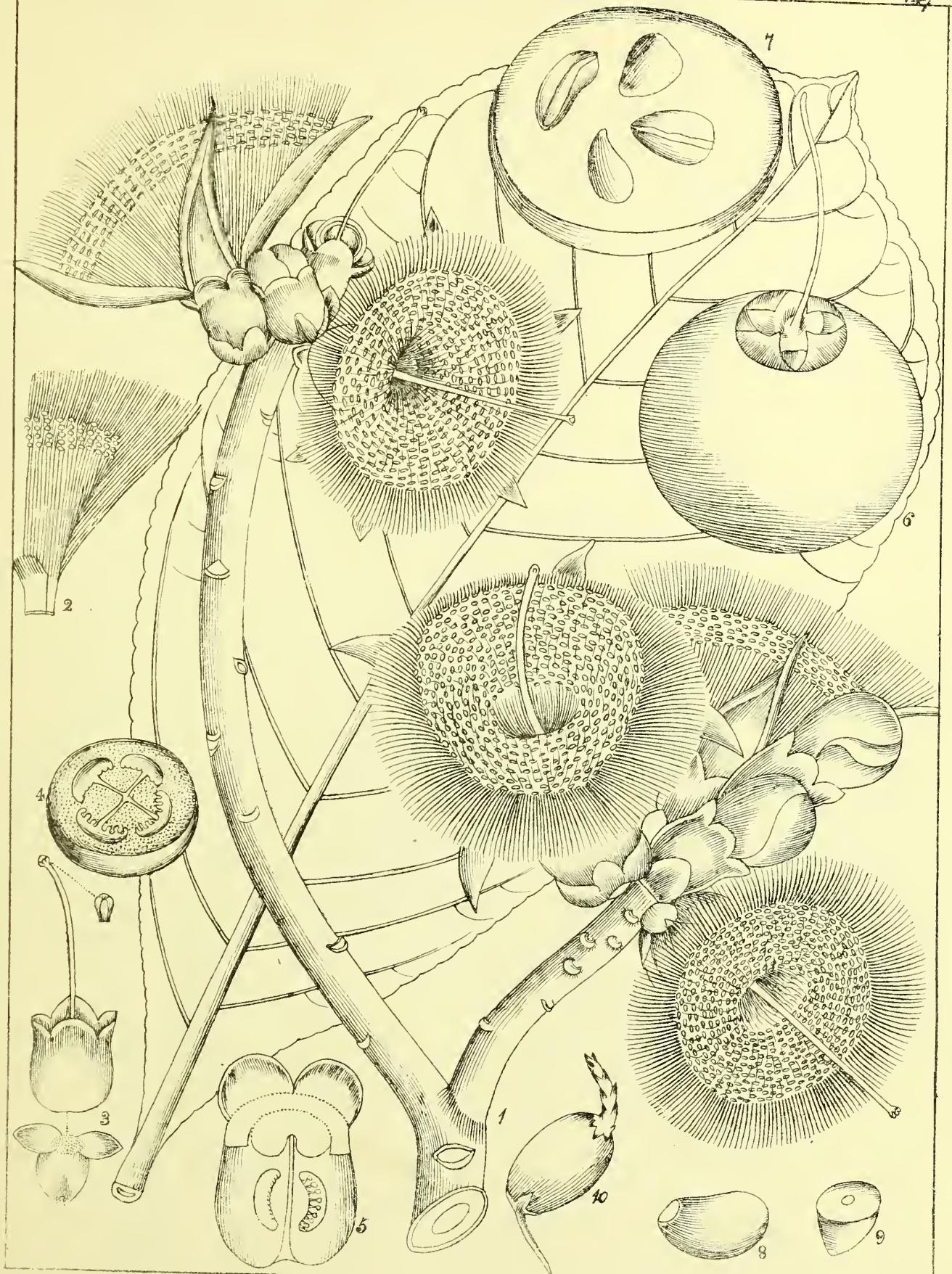




*Guarea paniculata* (Roxb.)







*Caraya sphaerica!*



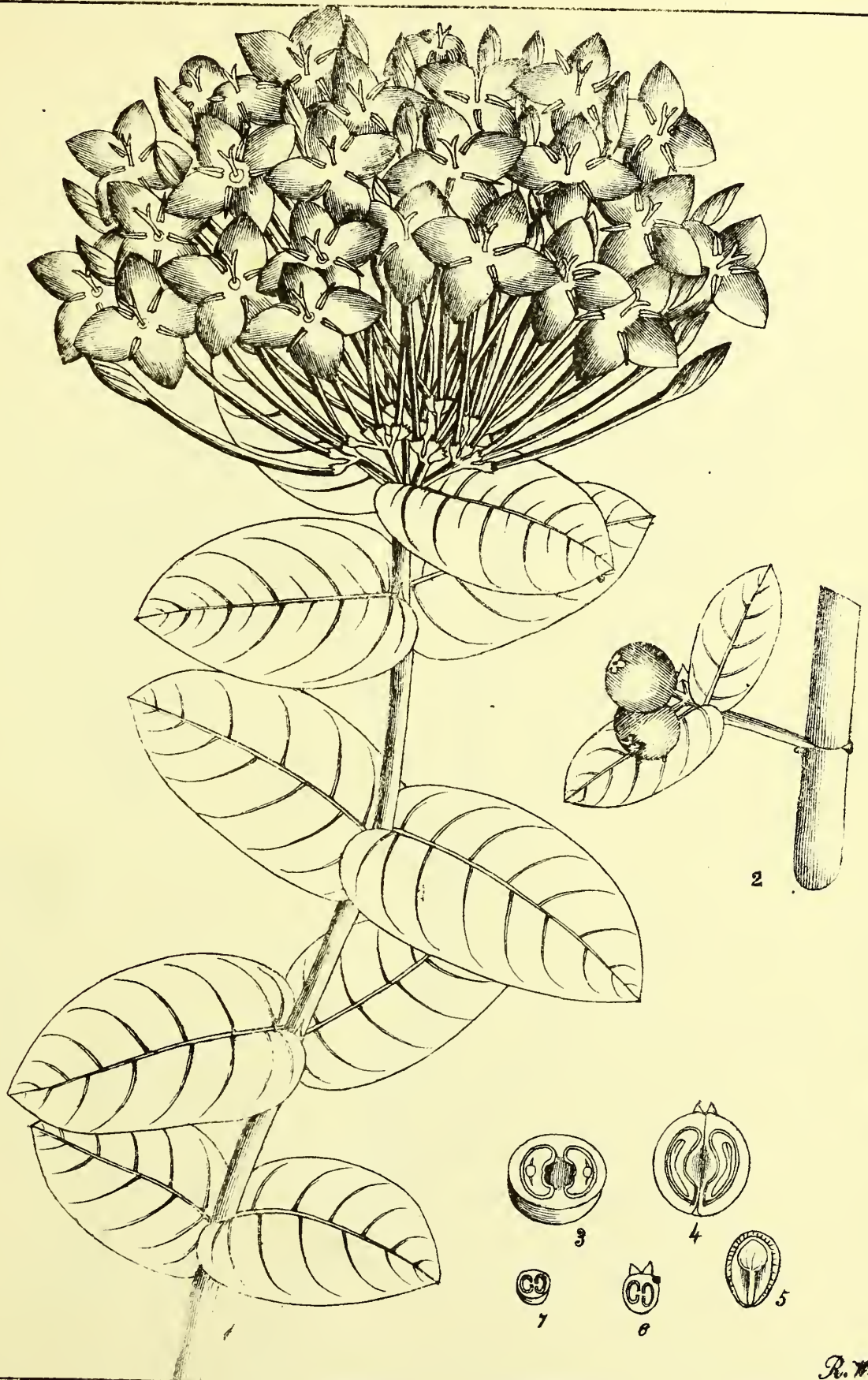




*Prunella indica* (Linn.)  
*Scaevola parviflora* (Pursh)







*Isora Bandhuca* (Roxb.)

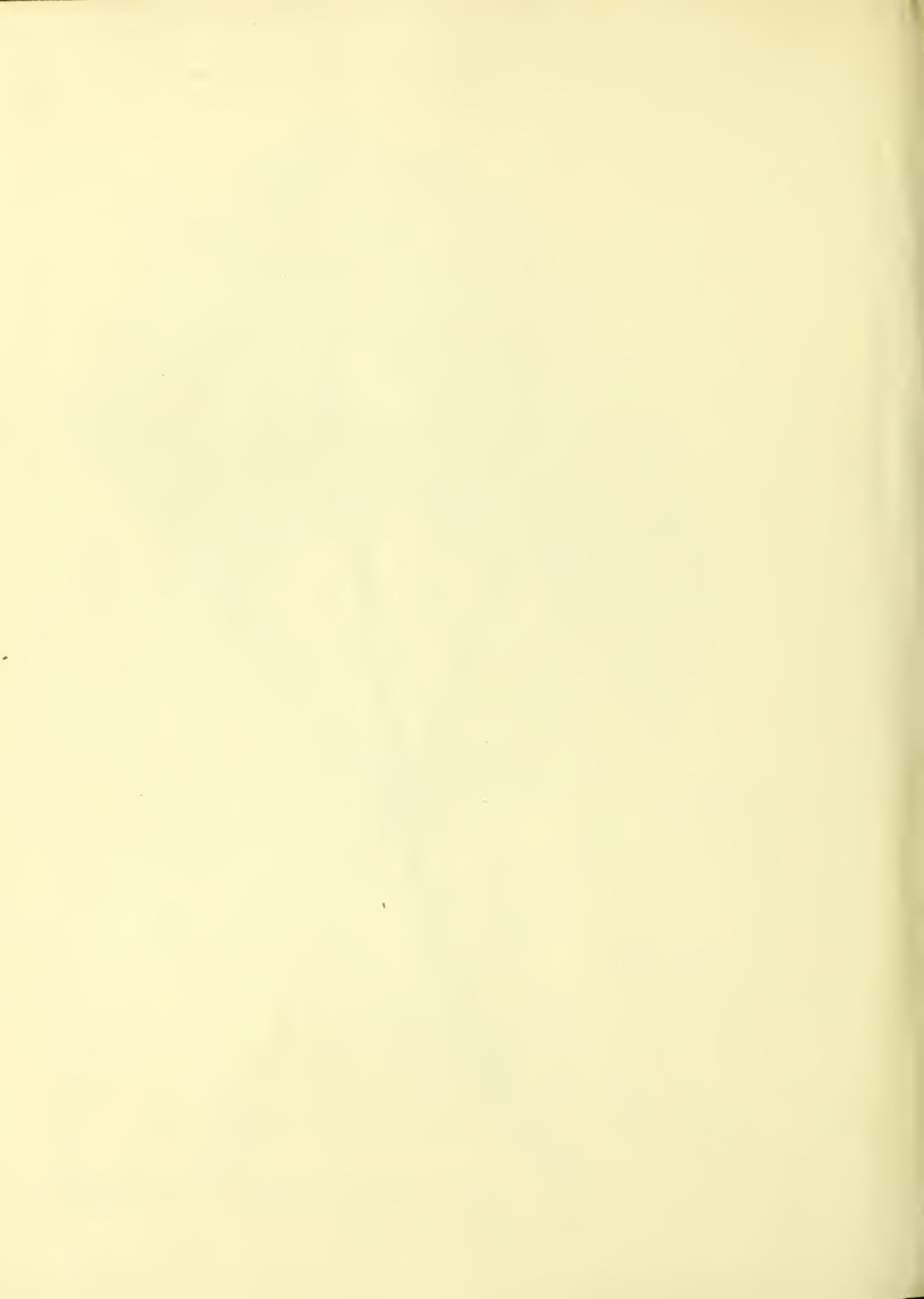


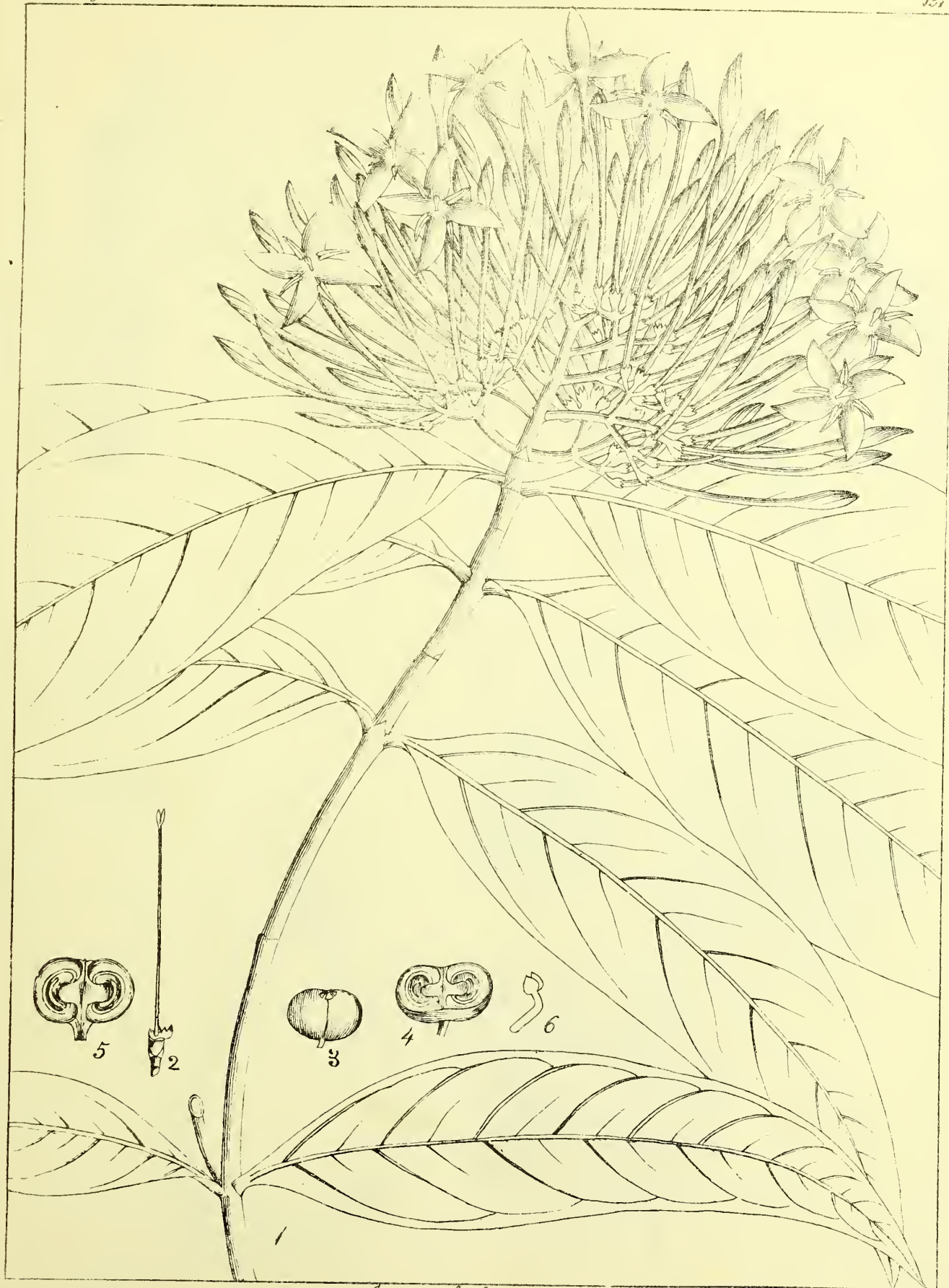




*Isora villosa* (Roxb.)







*Exora fulgens (Roal)*

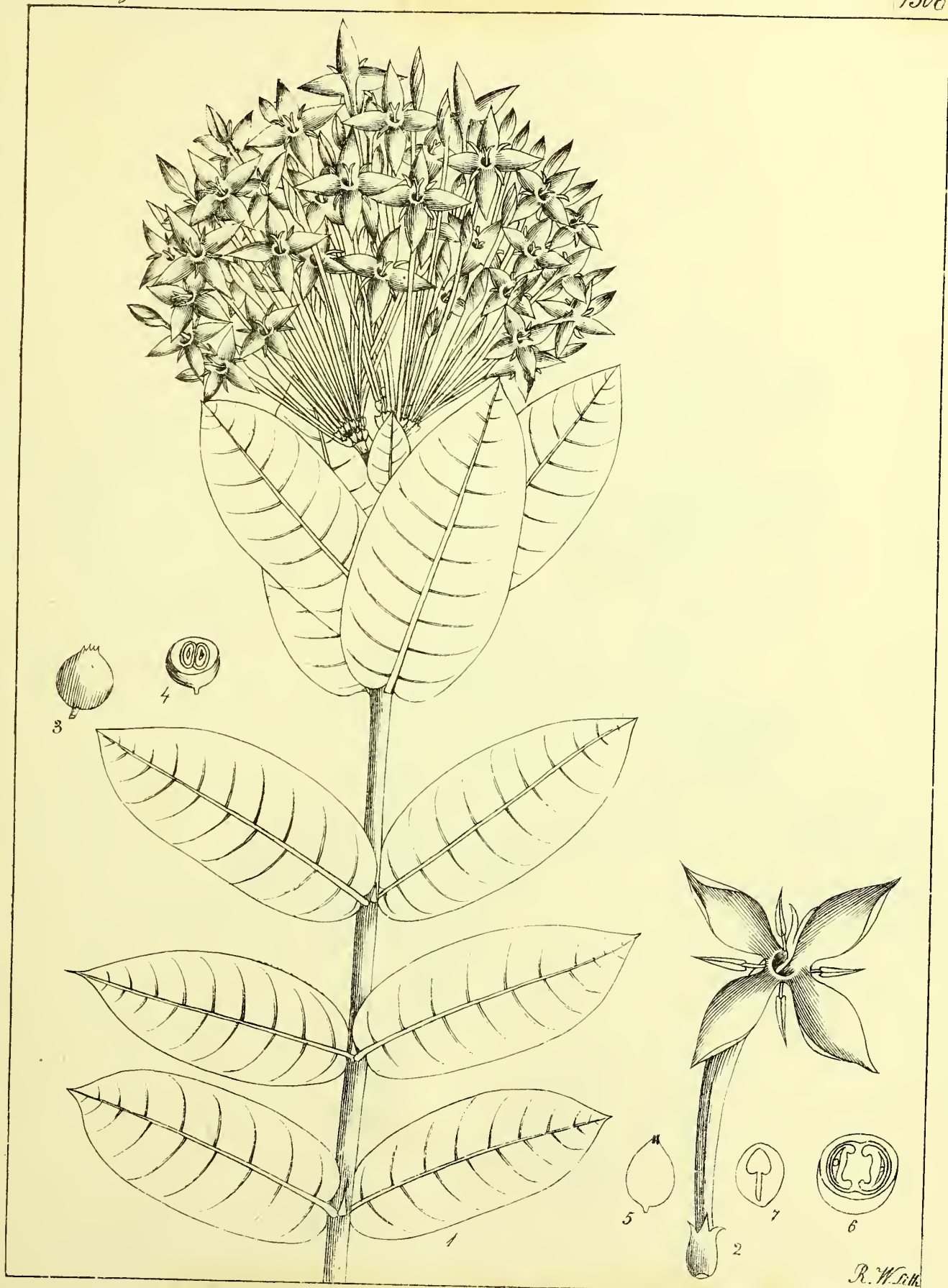




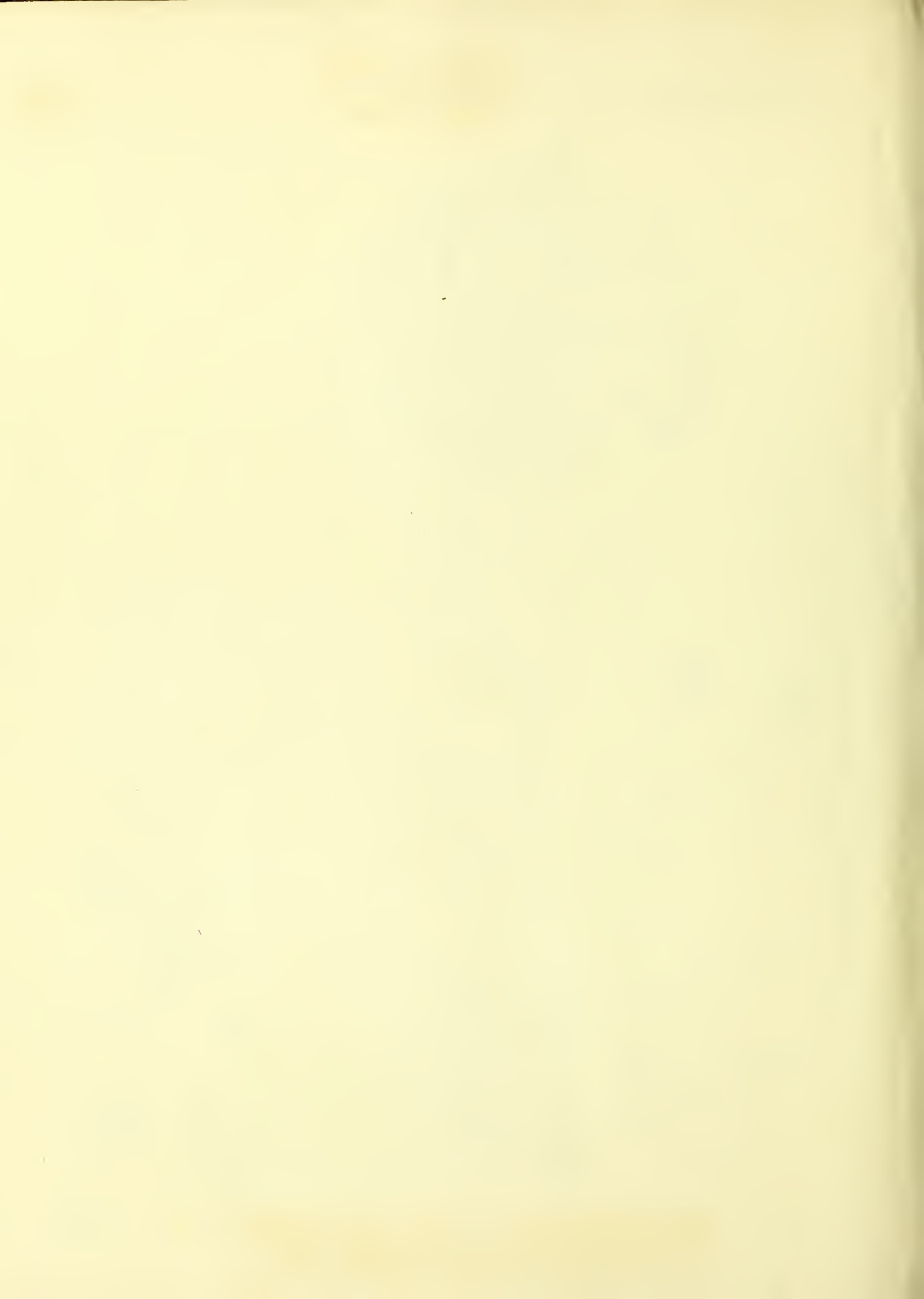
*Barringtonia racemosa.* (Roxb.:)







*Ixora coccinea* (Linn.:)





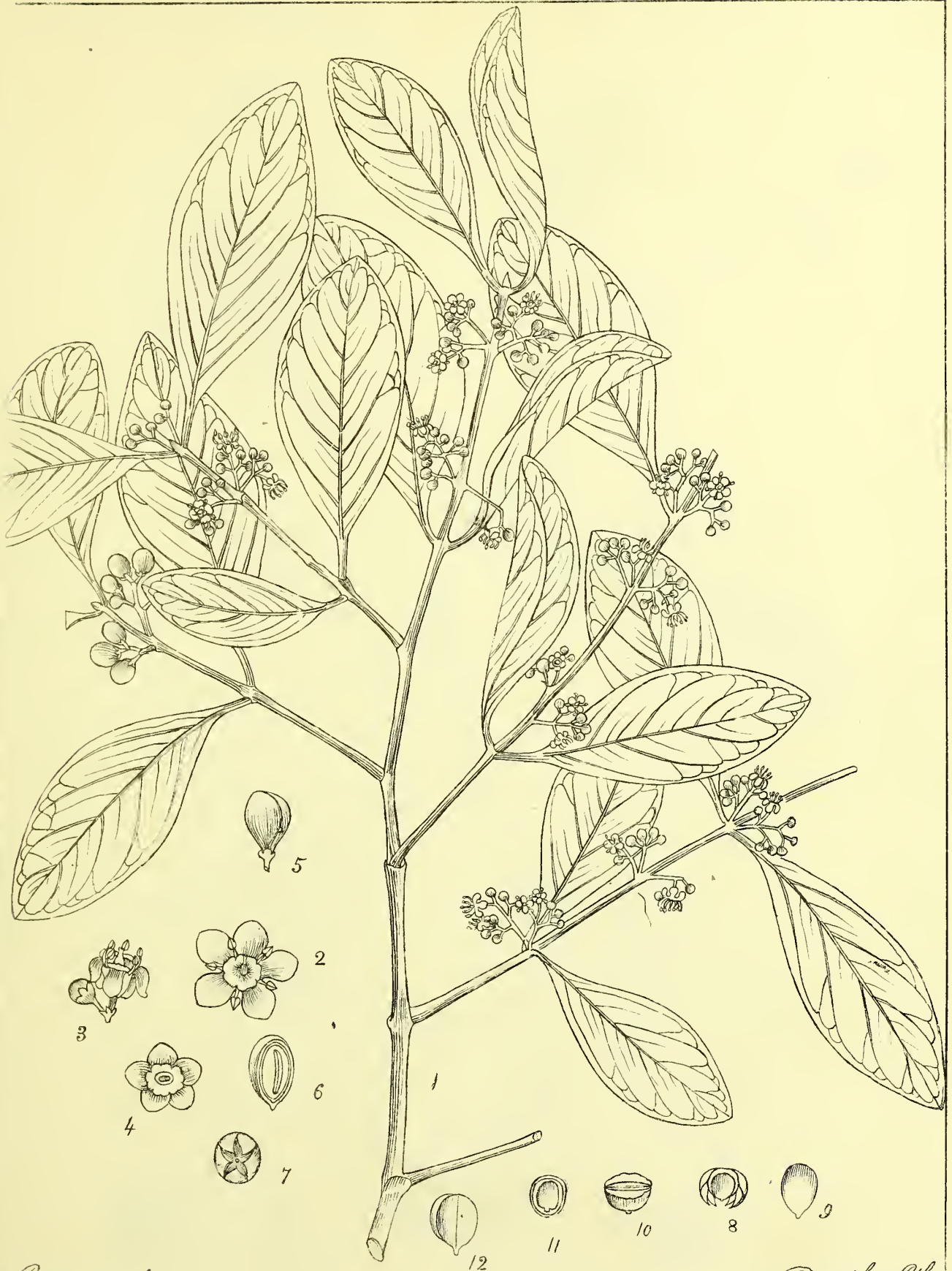
*Rungia* det.

Dumphy Lth.

*Abutilon fruticosum* (M. & A.)







Rungtsh, dep.

Dumphy, Lith.

*Pleurosylia Wightii* (W & A.)





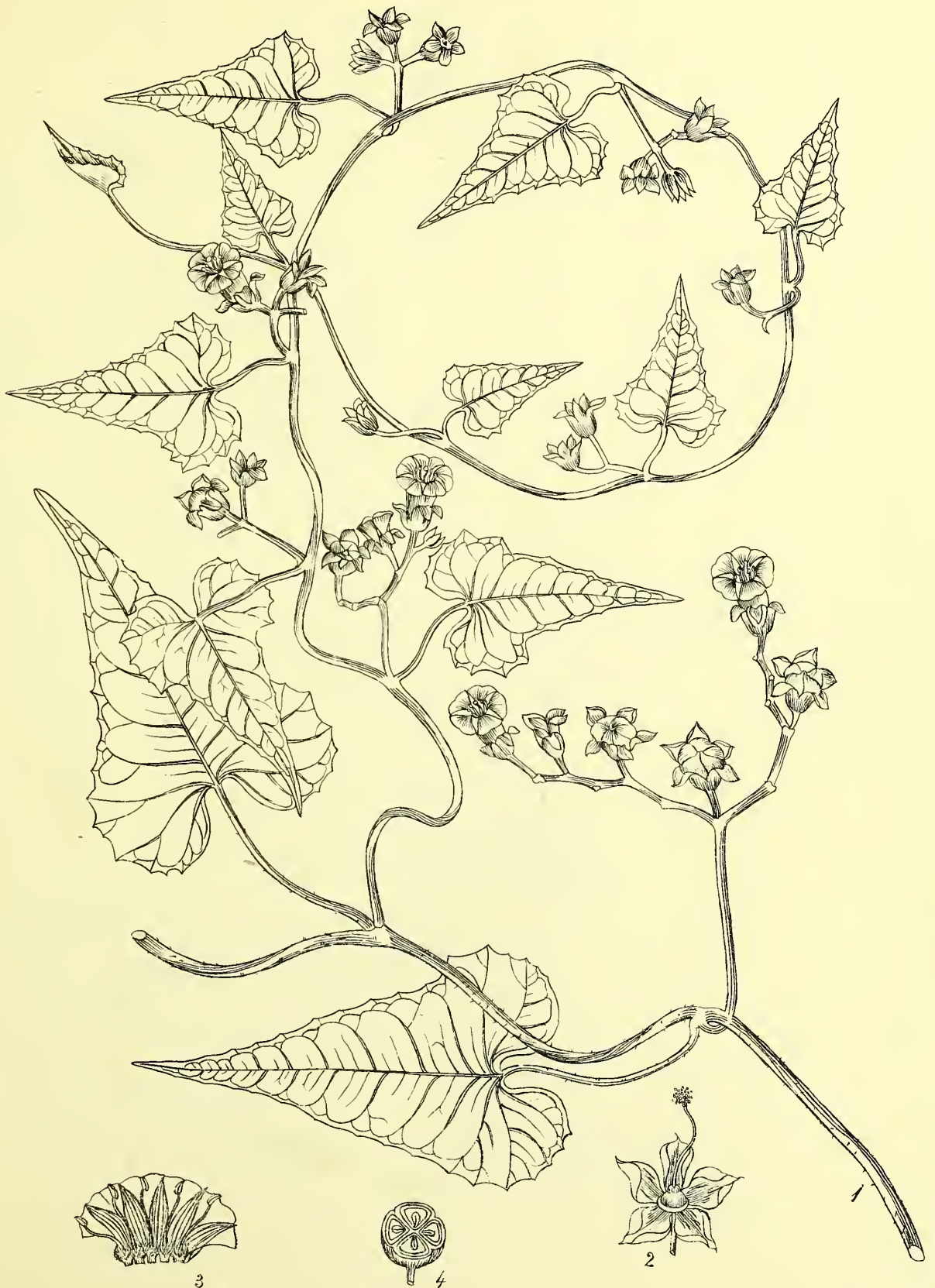
*Rungiah. del.*

*R. W. Lith*

*Ipomoea pulchella.*







Rungtsh. del.

R. W. Smith

*Ipomoea chrysoides.*



*Celastrus*

*Auriga. dl.*



*Celastrus paniculata. (Willa.)*

*Wendland. 188*





*Rhamnus*

159  
515

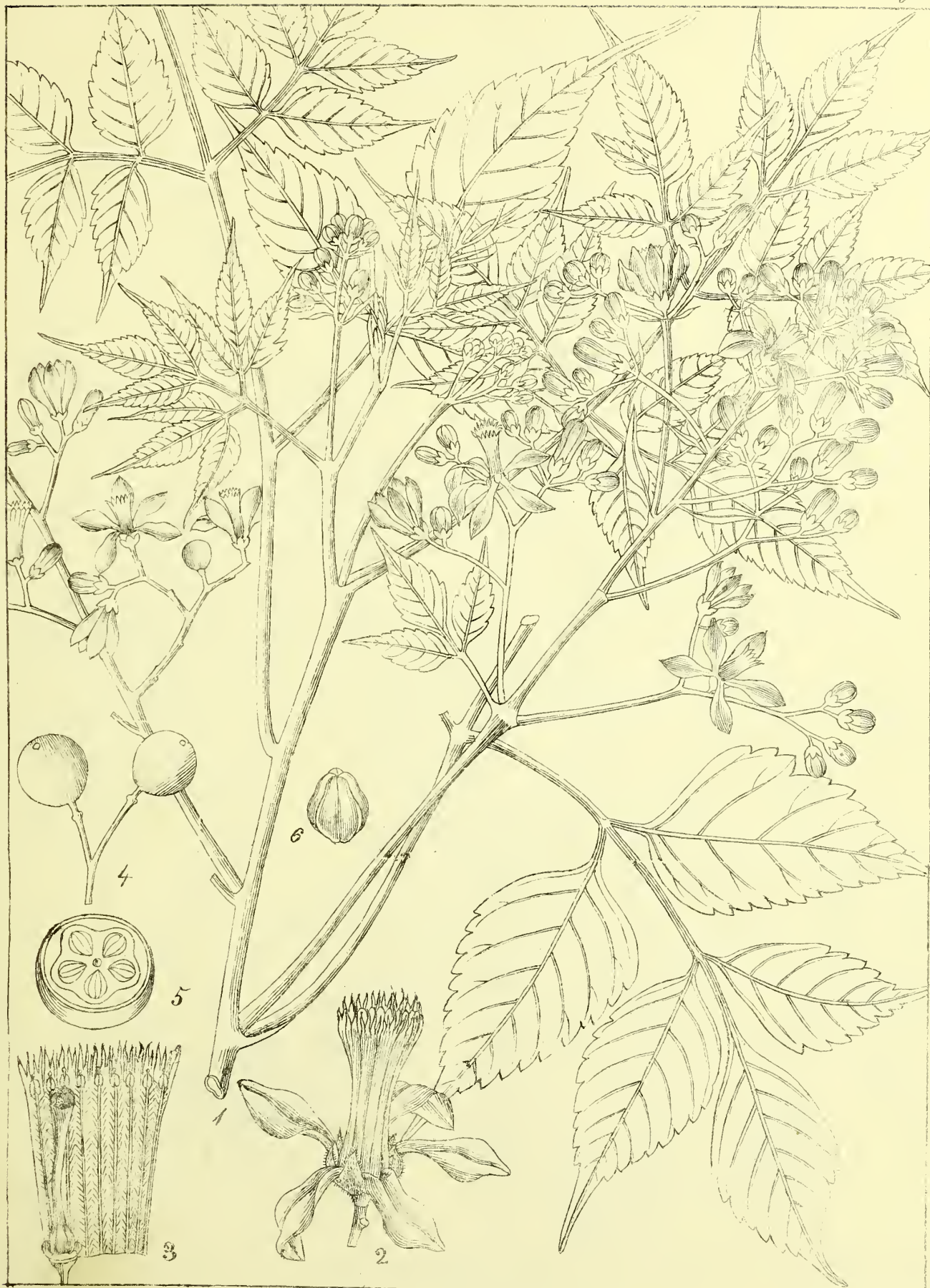


*Shungiah, del.*

*Guirgion*  
*Papoula*

*Rhamnus fraxinifolia* (W. & A.)



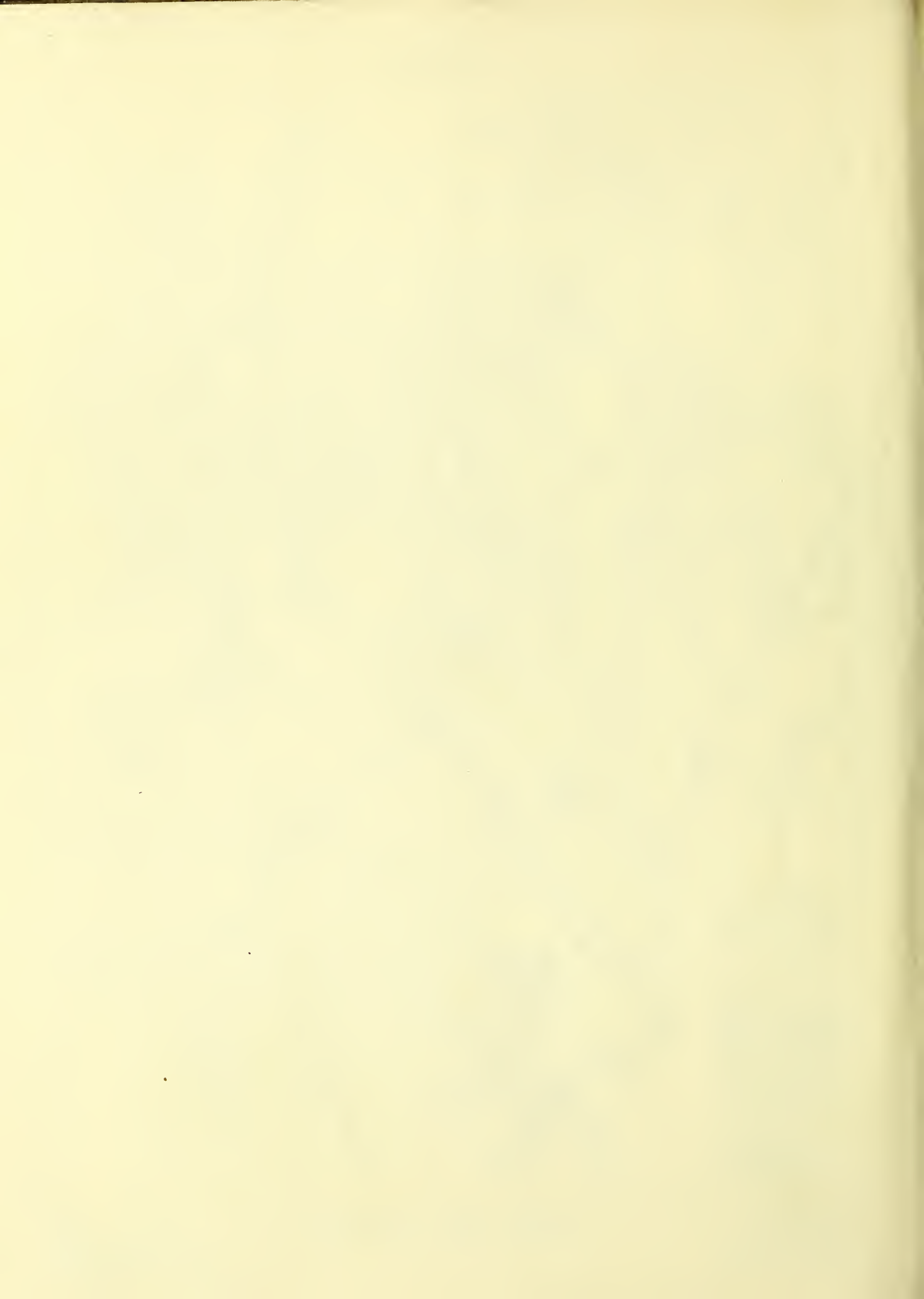


Rungia del  
Lam. & Guss. 116. 5716.  
*Melia tapamarum*

*Melia Azedarach* Linn.

Dumphy Lth  
303 3500  
*Thoussa Va. paymanoo*







Rungtiah, def.  
 ၆၇၇၇၇၇၇၇  
 Theonomausm

*Cedrela Toona* (Roxb.)

Dumphy, Lth.







## EXPLANATION OF PLATES.

## LOPHOPETALUM, (R. W.)

GEN. CHAR. Calyx obsoletely 5-lobed. Petals 5, orbicular, furnished near the base with a crest. Torus a large fleshy 5-lobed disk, covering the bottom of the calyx, the lobes covering, and cohering with the claws of the petals. Stamens 5, inserted into the disk, filaments persistent. Anthers oval, oblong, versatile, bursting their whole length. Ovary not immersed in the disk, triangular, 3-celled, with a double row of compressed imbricated ovules in each. Style short, thick furrowed, stigma obtuse. Fruit?

Shrubs, with opposite, coriaceous, ovate, acuminate, glabrous leaves, large axillary corymbs, and reddish purple flowers.

This genus is intermediate between *Celastrus* and *Euonymus*, but more nearly related to the latter than the former. Dr. Arnott, I think, considers Wallich's *Euonymus graminiflorus*, another species of this genus, an opinion in which I cannot yet coincide, though it seems probable Wallich's plant forms the type of a genus distinct from *Euonymus*.

162. *Lophopetalum Wightianum*—1. Flowering specimen—*natural size*—2. A flower—3. Ovary cut vertically, showing the double row of ovules—4. Cut transversely, showing its triangular form and 3 cells—5. A detached ovule—*all more or less magnified*.

163. *Ventilago madraspatana*—Flowering branch—*natural size*—2. Side view of an expanded flower—3. Front view of the same, showing the stamens opposite the scale-like petals—4. Stamens—5. A transverse section of the ovary, showing it 2-celled, with a solitary ovule in each—6. A vertical section of the flower, ovary immersed in the disk—7. A full grown fruit—*natural size*—8. Fruit cut vertically, showing the solitary seed and ascending wing—9. A fruit cut transversely, 1-celled and 1-seeded—*natural size*—10. An entire seed—11. Seed lobes separated, showing the embryo at the base—*with the exceptions mentioned, all more or less magnified*.

164. *Vatica lacifera*—A flowering branch—*natural size*—2. Corolla detached and split open, to show the stamens adhering to its base—3 and 4. Stamens—5. Ovary cut transversely, 3-celled, with 2 ovules in each—6. Ovary, style, and stigma, *in situ*—7. Ovary cut vertically, showing the central attachment of the ovules—8. A full grown capsule, with the sepals enlarged into 5 long wings—9. Corolla enclosing the ovary, sepals removed—10. A fruit cut vertically—11. Cut transversely—12. A detached seed—13. A seed lobe expanded to show its form, but inverted by the mistake of the artist—*all more or less magnified*.

I am indebted to Mr. Apothecary Bertie, with the exception, of some of the dissections, for the very well executed drawing from which this figure is copied, and have much pleasure in thus publicly proffering my thanks, for this and several other favours of the same kind, to that very meritorious officer.

165. *Shuttera vestita*—A flowering branch—*natural size*—2. A dissected flower—3. Back and front views of the stamens—4. An immature legume laid open, showing its numerous ovules—5. A young seed—*natural size*—6. The same magnified.

Obs.—This may prove a new species, but owing to the great similarity existing between the only two described peninsular species I preferred for the present associating it with the one to which I thought it most nearly approached—though it does not altogether correspond with the character.

166. *Milnea Roxburghii*—Flowering branch, and a detached panicle of fruit—*natural size*—2. An expanded flower, showing the globose stamiferous umbels—3. The umbels split open, to show the attachment of the filaments within—4. The ovary surrounded by the subsistent calyx—5. A full grown fruit cut transversely, 2-celled, with 1 seed in each—*all more or less magnified*.

167. *Glycosmis triphylla*—*natural size*—2. A flower split open, to show the stamens and ovary—3. A young fruit cut transversely, 5-celled, showing its short pedicel and discoid glandular torus—4. A mature fruit cut transversely, 1-seeded, the remaining ovules aborted—5. The seed removed and slightly magnified.

Obs.—This drawing was prepared many years ago, and the analysis is less perfect than they should be.

168. *Glycine labialis*—A branch in flower and fruit—*natural size*—2. A detached flower—3. The same dissected and the petals shown separately—4. Calyx split open, to show the ovary and united filaments—5. Anthers back and front views—6. Stamens, the filaments all united at the base—7. The ovary split open—8. A portion of a full grown pod with the seed *in situ*—9. Valves of the legume spirally twisted after dehiscence—10. A seed cut vertically—11. The same cut transversely—12. Seed lobes and incurved radicle—13-14. Portions of a leaf showing the hairs—*all more or less magnified*.

169. *Ipomœa sessiliflora*—Leaves cordate, acuminate, hairy; flowers aggregated, small, not involucred; peduncles very short; capsules moderate sized.

1. Flowering branch—*natural size*—2. Corolla split open, showing the insertion of the stamens—3. Calyx, ovary and style, and capitate stigma—4. Capsule cut transversely—5. Embryo foliaceous removed from the seed.

170. *Vitis setosa*—Flowering branch—*natural size*—2. An expanded flower, petals reflexed—3. The same at the commencement of expansion—4. The petals removed, showing the truncate calyx, and 4-lobed gland-like disk, with a single detached petal—5. Stamens back and front views—6. The ovary cut vertically—7. Cut transversely, with a front view of the disk—8. A berry cut transversely, one seeded by abortion—*all more or less magnified*.

Obs.—The analysis is partly made from dry specimens, the figure is from a recent one.

171. *Vitis carnosa*—Flowering branch—*natural size*—2. An expanded flower—3. The petals removed to show the disk—4. A full grown fruit cut transversely—*all more or less magnified*.

172. *Terminalia Catappa*—A flowering branch—2. A detached flower—3. The calyx split open, showing the stamens and inferior ovary—4. Stamens back and front views—5. Ovary cut vertically, ovules pendulous—6. Transverse section of the same, ovules paired—7. A full grown fruit—8. The same cut transversely, seed solitary—9. Seed detached—10. The same cut transversely—11. Testa removed to show the spirally convolute cotyledons—*all more or less magnified*.

173. *Capparis horrida*—Flowering branch—2. Anthers back and front views—3. Ovary—4. The same cut vertically—5. Cut transversely—6. A full grown fruit—*natural size*—7. The same cut transversely—8. A seed—*natural size*—9. The same cut vertically—10. The embryo removed, with the exceptions mentioned, *all more or less magnified*.

174. *Niebuhria linearis*—Flowering branch—*natural size*—2. A flower, the calyx split open, showing the cylindrical torus and insertion of the stamens—3. Anthers back and front views—4. Ovary cut vertically—5. The same cut transversely—6. An immature berry cut transversely, showing the parietal attachment of the seed—7. A seed—8. The same cut transversely, showing the twisted cotyledons—9. The seed, the testa removed—10. Cut vertically—11. Cotyledons opened out, showing the ascending direction of the radicle—*all more or less magnified*.

175. *Limonia missionis*, (*L. citrifolia*! Moon's cat. Ceyl. Pl. not Roxb.)—Flowering branch—*natural size*—2. An expanded flower—3. Anthers back and front views—4. Ovary cut vertically, showing the attachment of the ovules—5. The same cut transversely, 4-celled, with two collateral ovules in each—6. Another instance showing an occasional variation, 5-celled—7. An immature ovule—8. A fruit near maturity cut transversely—9. A seed—10. The same cut transversely—11. Seed, the testa removed—12. A seed lobe, showing the inner surface covered with pellucid dots—*all more or less magnified*.

Obs.—This is certainly Moon's plant the original specimen of which I have seen—Roxburgh's *L. citrifolia* appears to be a species of my *Paramignya*, hence this plant ought perhaps to bear Moon's name.

176. *Vitis angustifolia* *Rorb.* dioicous. Leaves ternate, leaflets, lanceolate, serrate, glabrous; stipules ovate, acute, cymes shorter than the petioles. Berries spherical, 1-2 seeded—*Rorb.*

1-1. Flowering branch male and female—2-2. Male and female flowers—3. A berry—4. The same cut transversely—5. A seed cut vertically, showing the embryo *in situ*—6. The embryo removed, *all magnified*. Copied from Roxburgh's drawing.

177. *Vitis lanceolaria*—Flowering branch—*natural size*—2. An expanded flower. From Roxburgh's drawing.

178. *Nymphœa stellata*—Plant—*natural size*—2. Stamens and ovary front view—3. Ovary cut transversely, many-celled—4. Cut vertically, seed very numerous—5. A single seed—*slightly magnified*.

179. *Modœca Wightiana*—Plant—*natural size*—2. A female flower dissected, showing the small included petals, the sterile filaments and the superior ovary—3. A seed with its arillus—one of the fruit cut transversely, shows the parietal attachment of the seed.

180. *Helicteres Isora*—A flowering branch—*natural size*—2. A dissected flower, the filaments united forming a tube round the podocarp—3. Capsule, carpels spirally twisted—4. Capsule cut transversely, 5-celled, many seeded—5. A seed—*all more or less magnified*.

181. *Streculia fatida*—A flowering branch—*natural size*—2. A dissected flower, the calyx split open, showing glands in the place of the petals, and the stalked ovary surrounded by the stamens—3. The ovary—4. Cut vertically, ovules numerous—5. The same cut transversely, showing the 5 cells with two rows of ovules in each—6. A single carpel, five of which go to form the entire fruit—7. A seed cut lengthwise—8. Cut transversely—9. Embryo removed—*all more or less magnified*.



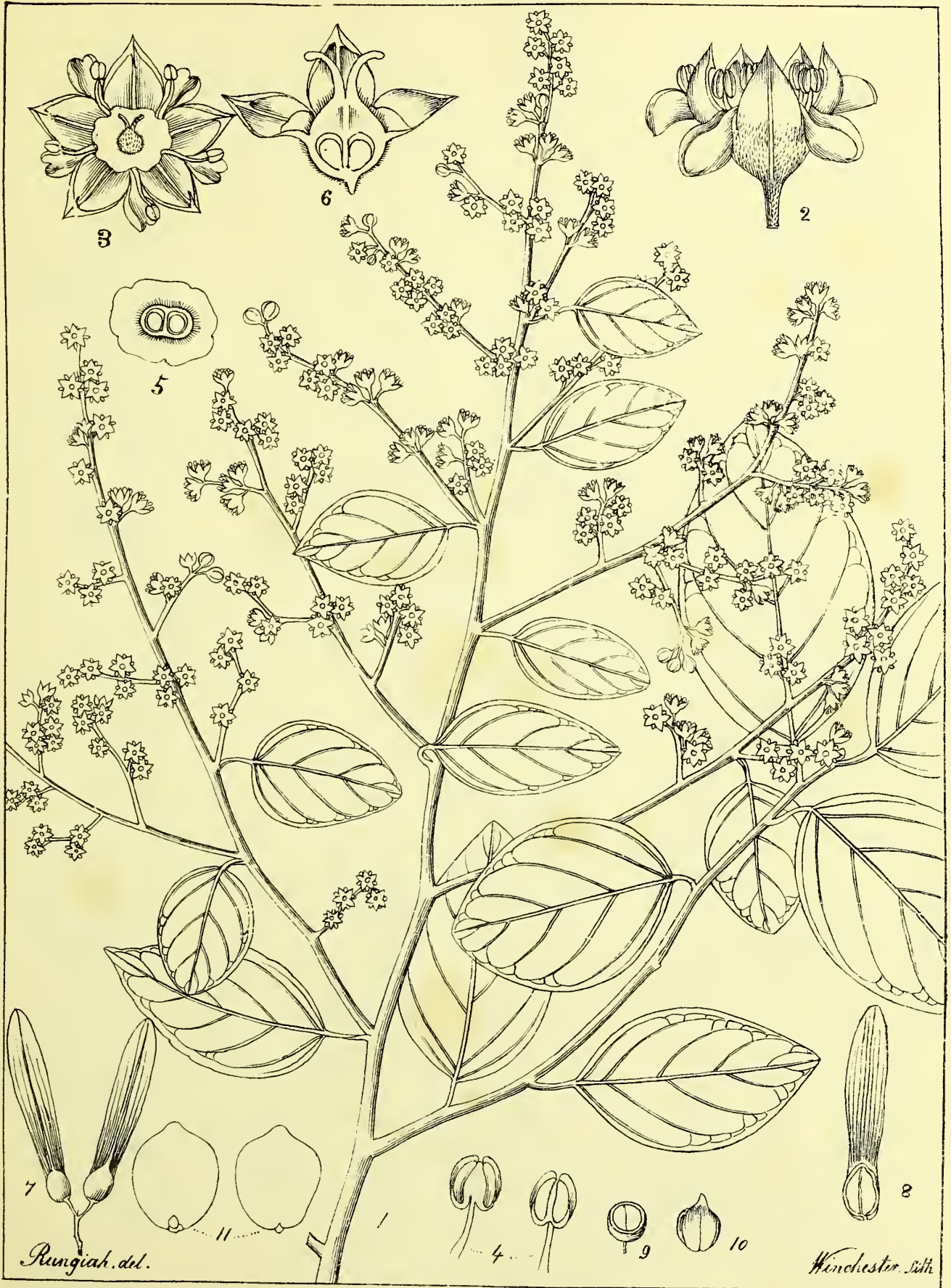
Rungta. del.

Winchester lith.

*Lophopetalum Wightianum.* (Arn. :)







*Ventilago maderaspatana.* (Goertn.:)







*Vatica laccifera* (W & A.)







Rungnah, del.

*Shutteria vestita* (W & A.)

Dunphy, Lith.







Rungiah, del

Dunphy, lith

*Melnea Roxburghiana.*





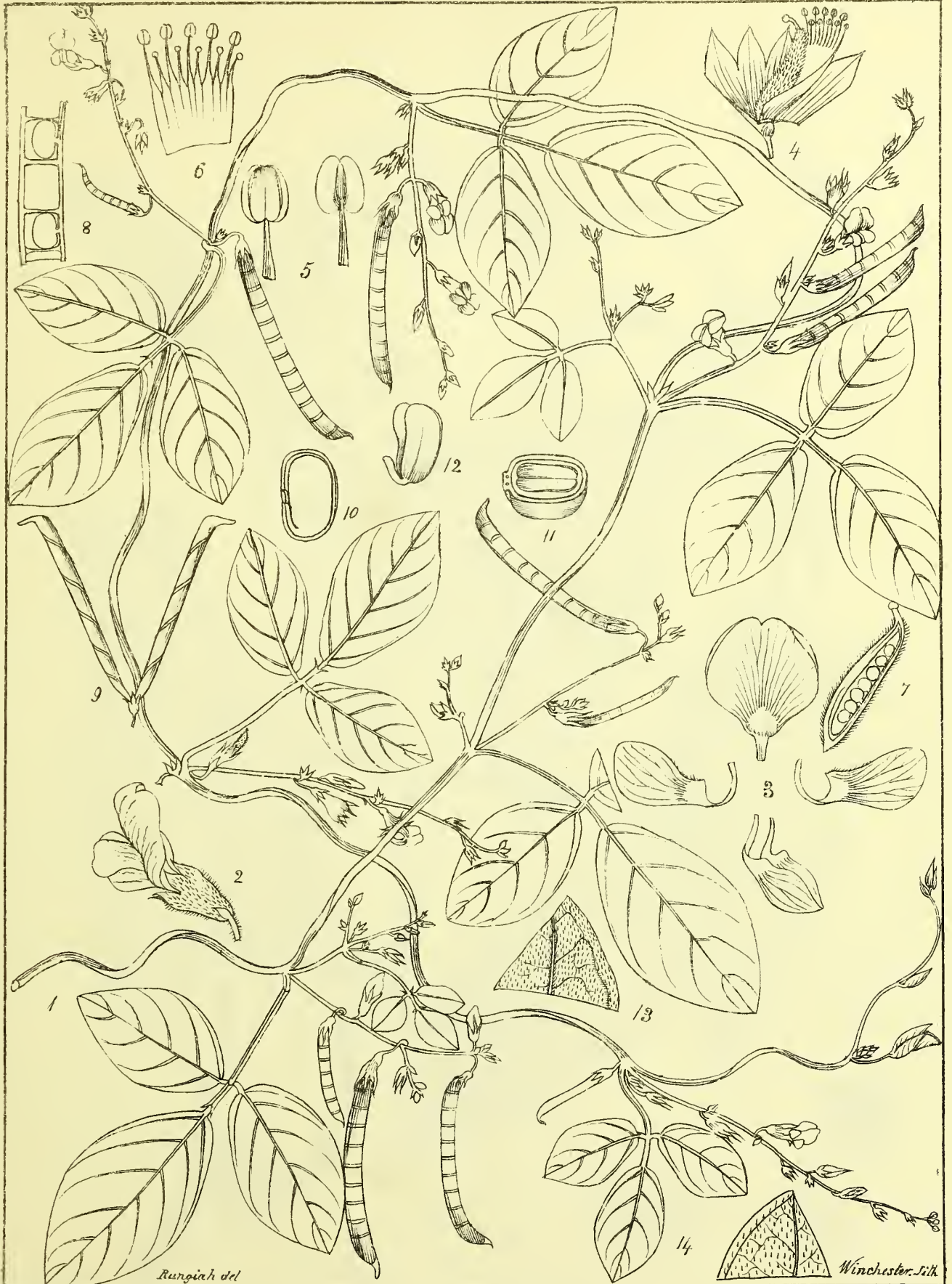
Rangiar, del.

Dumphy, lit.

*Glycosmis triphylla* (Wight)







Rungiah del

Winchester, Silk

கோலோப்பூண்டூ  
Colloppoonndoo. T.

*Glycine labialis* (Linn.)







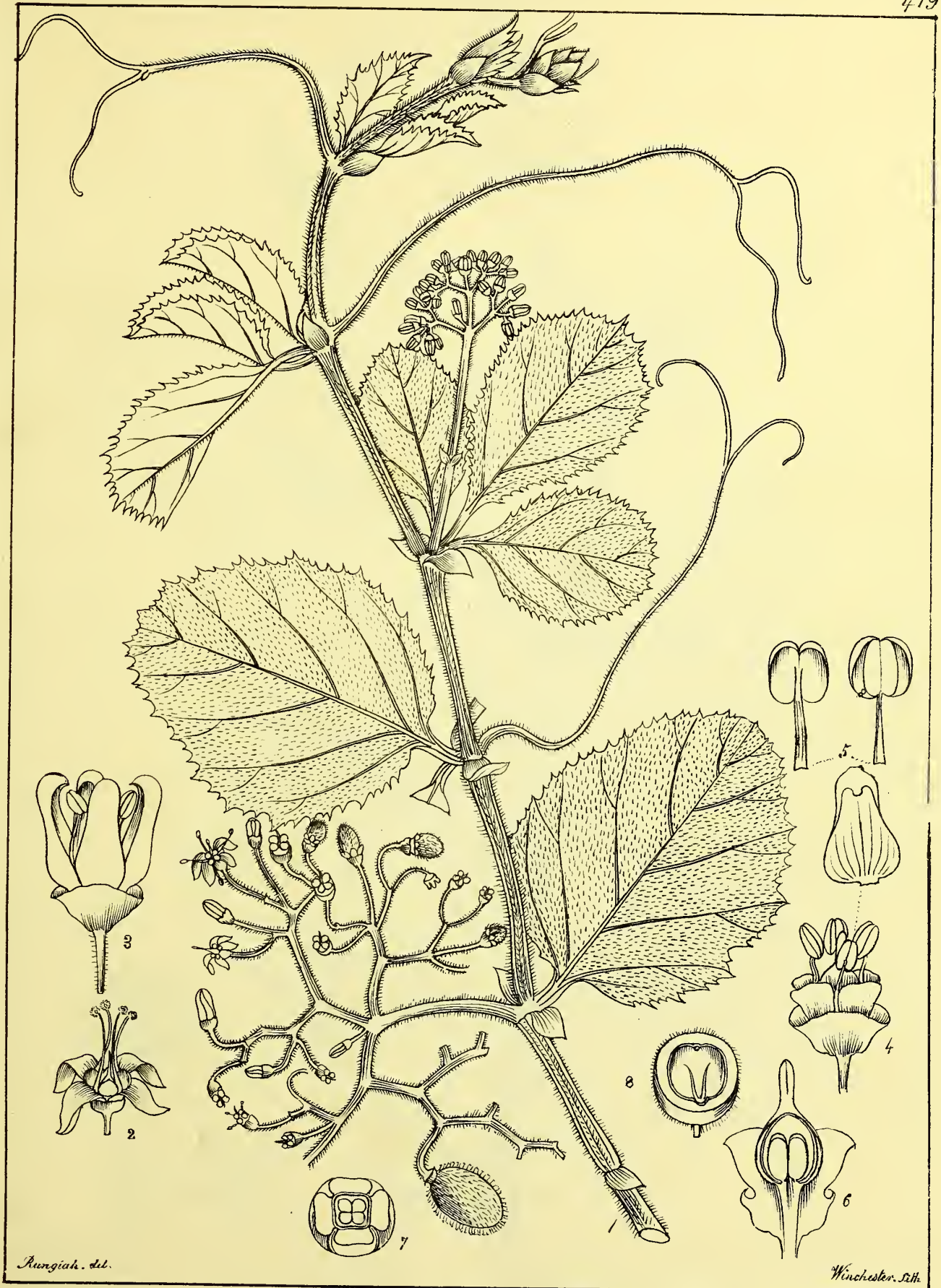
Bungiba del

Winchester. S.H.

*Ipomaea sepsiliflora* (Chois.)







Rungiah. del.

Winchester. lith.

புளியிலை

*Poolie naranie.*

Tam.

*Vitis setosa.* (Wall. :)

வட்டை

*Burray butchellii*

Grand





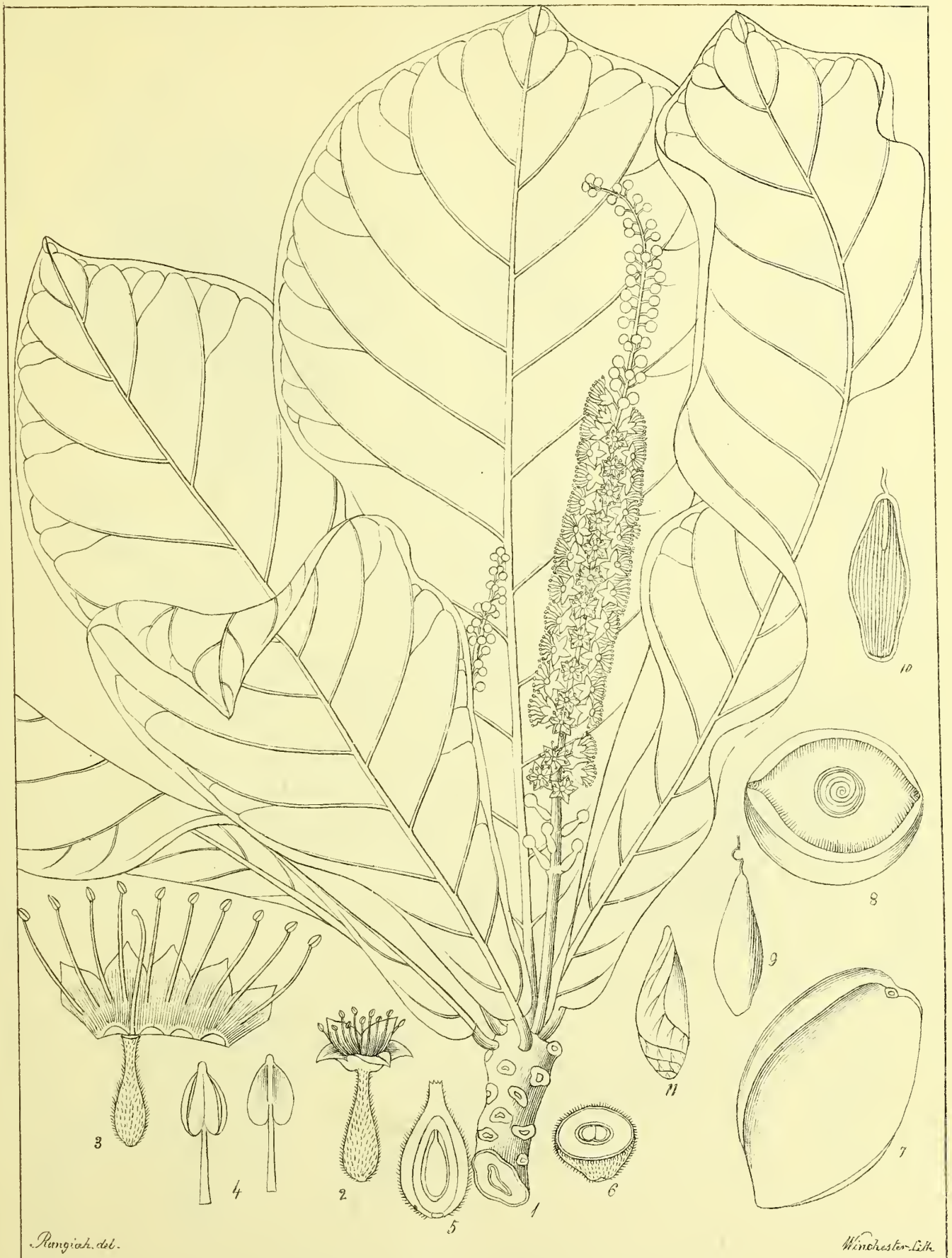
*Pungiah. del.*

*Winchester. Lith.*

*Vitis carnosae. (Wall.)*







பாதுமரம்

*Bathumarum* } Tam

*Terminalia catappa*. (Sinn.)

బాదామంపం }  
*Bathammanno* } Gen



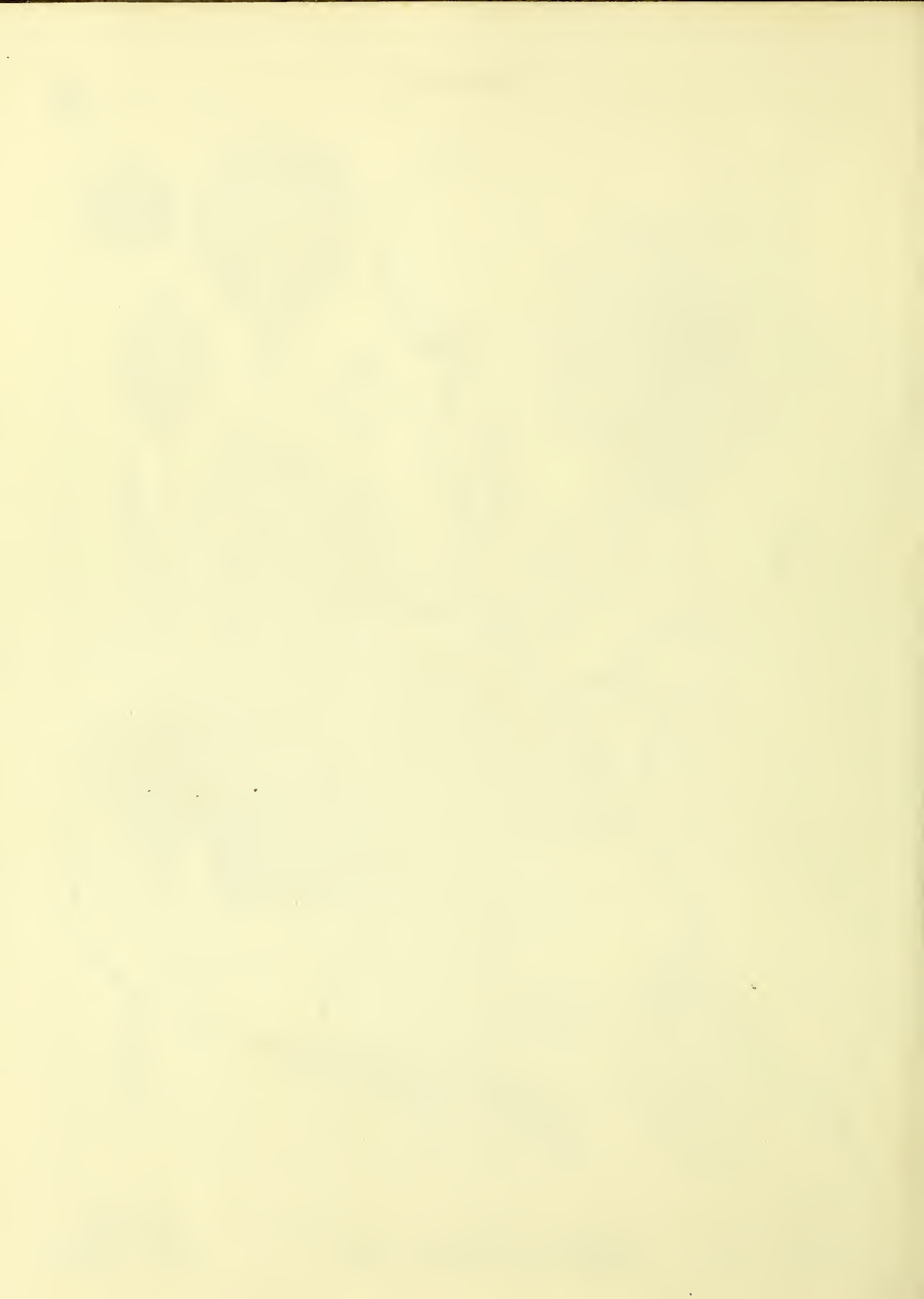


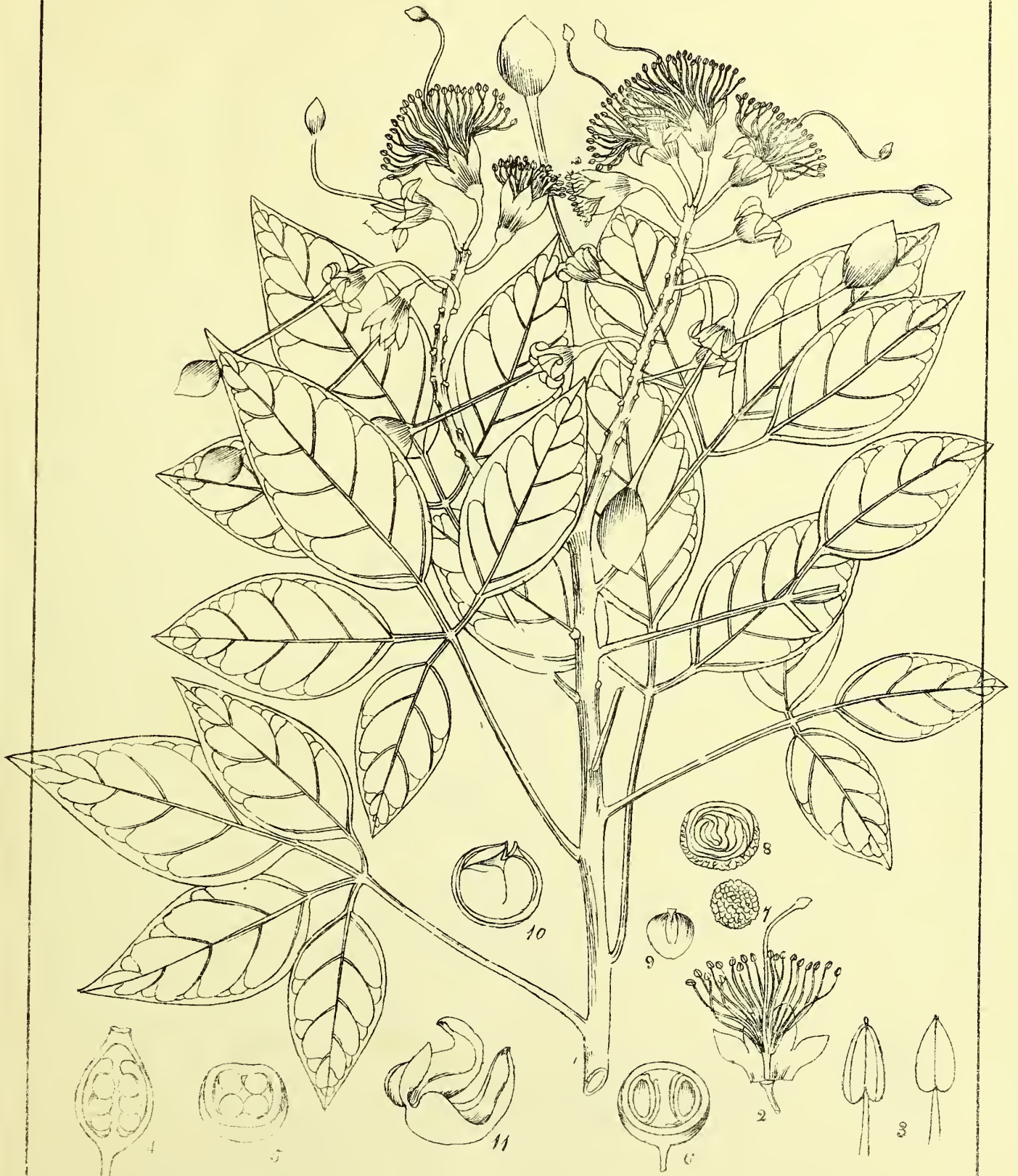
Arthandil Sam

*Capparis horrida*. (Sinn.)

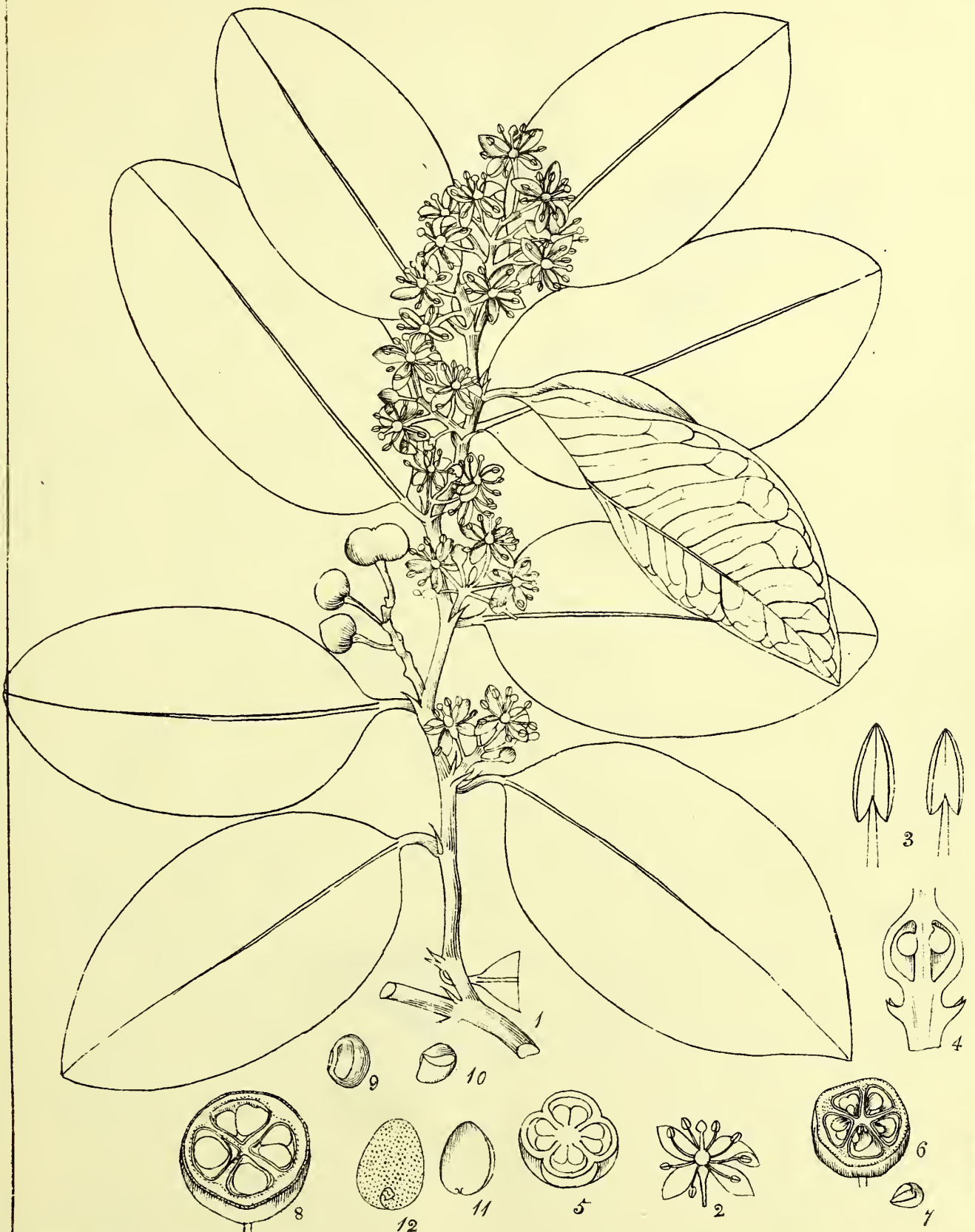
Arthandil Sam









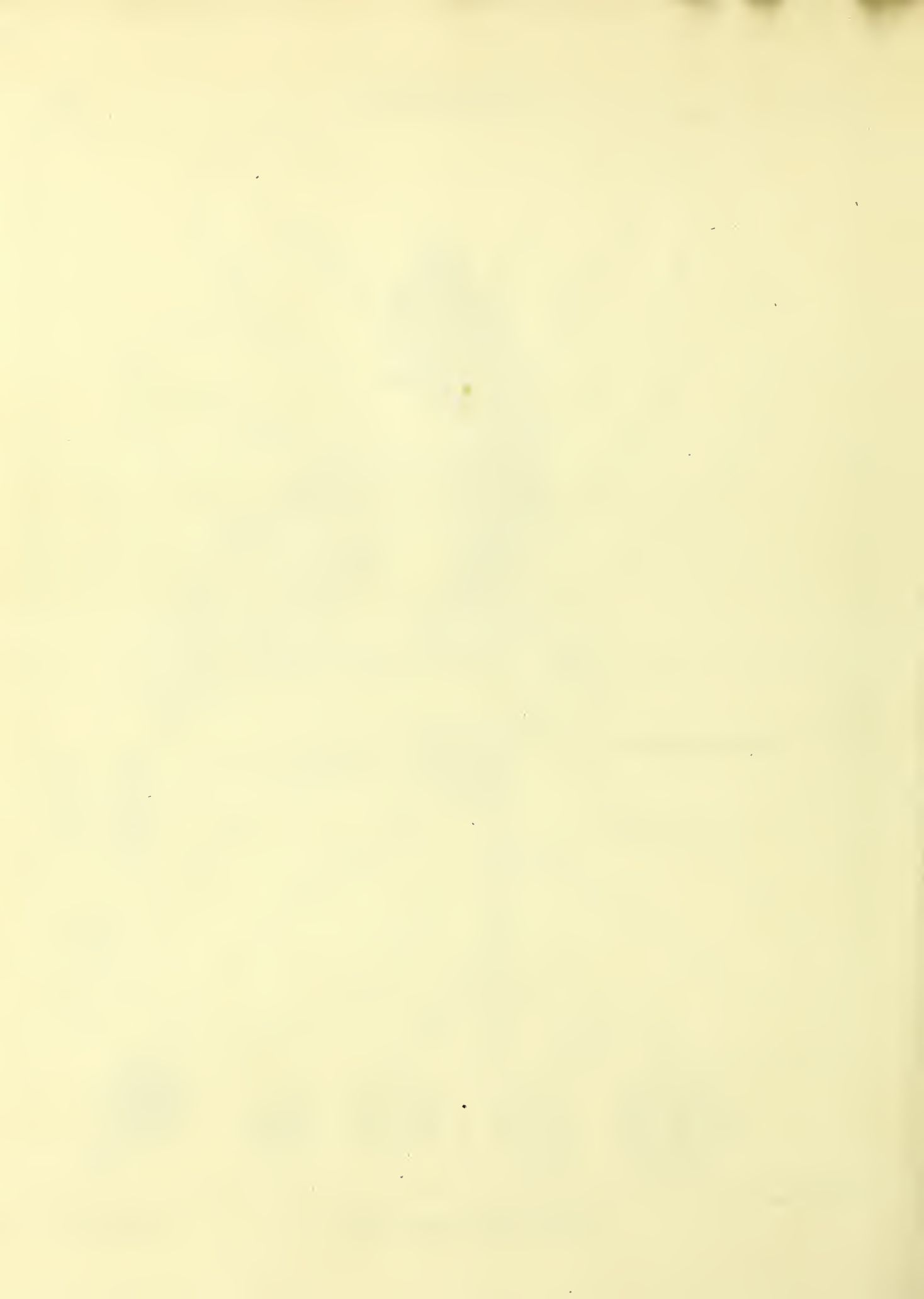


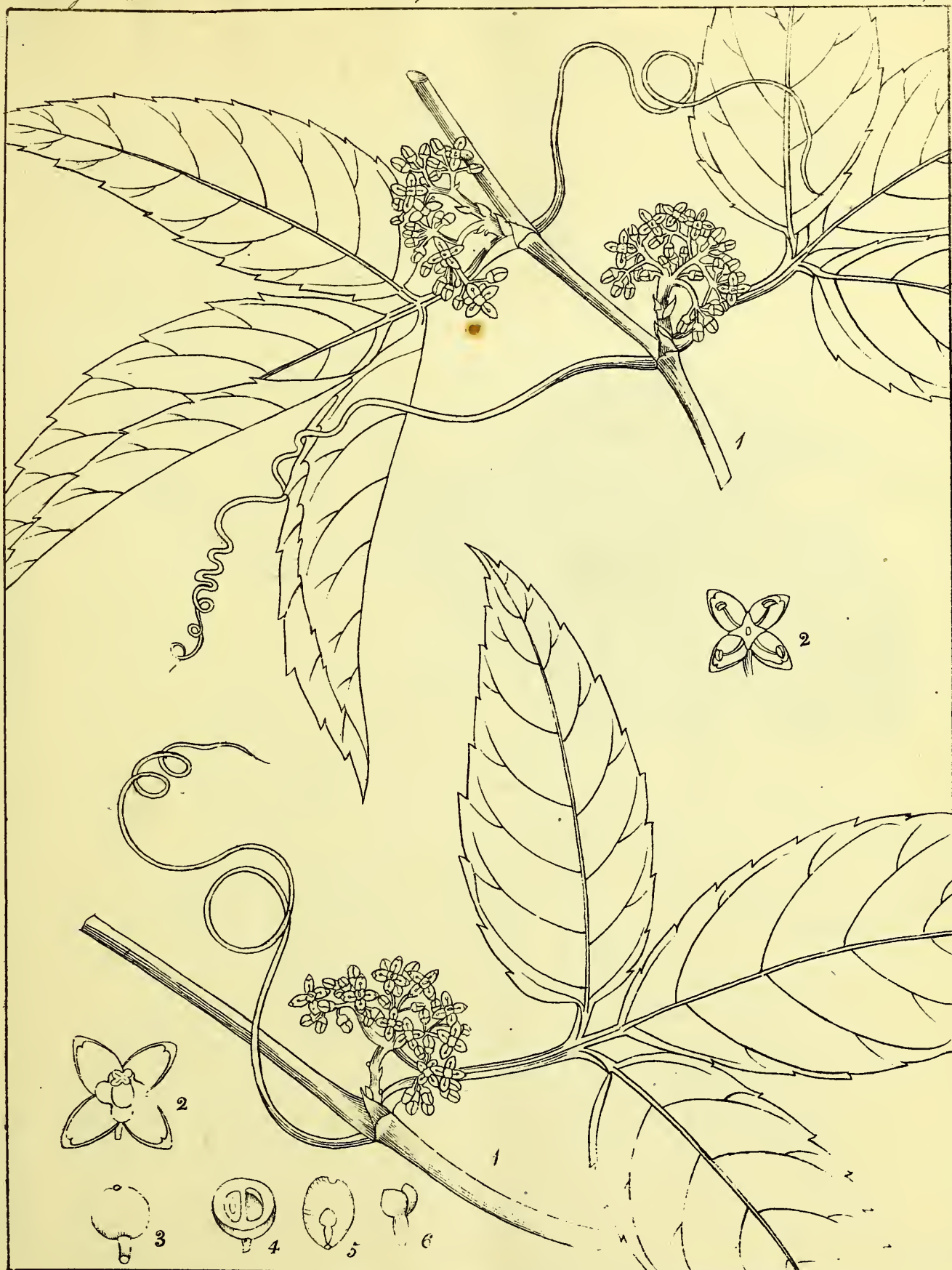
*Rungiah, det.*

*Limonia missionis.*

*Dumphy, Lith.*







*Vitis angustifolia* (Wall.)  
*Cissus angustifolia* (Roxb.)

Dumphy, Lith.



*Ampelidea*

*Barbarghiana*



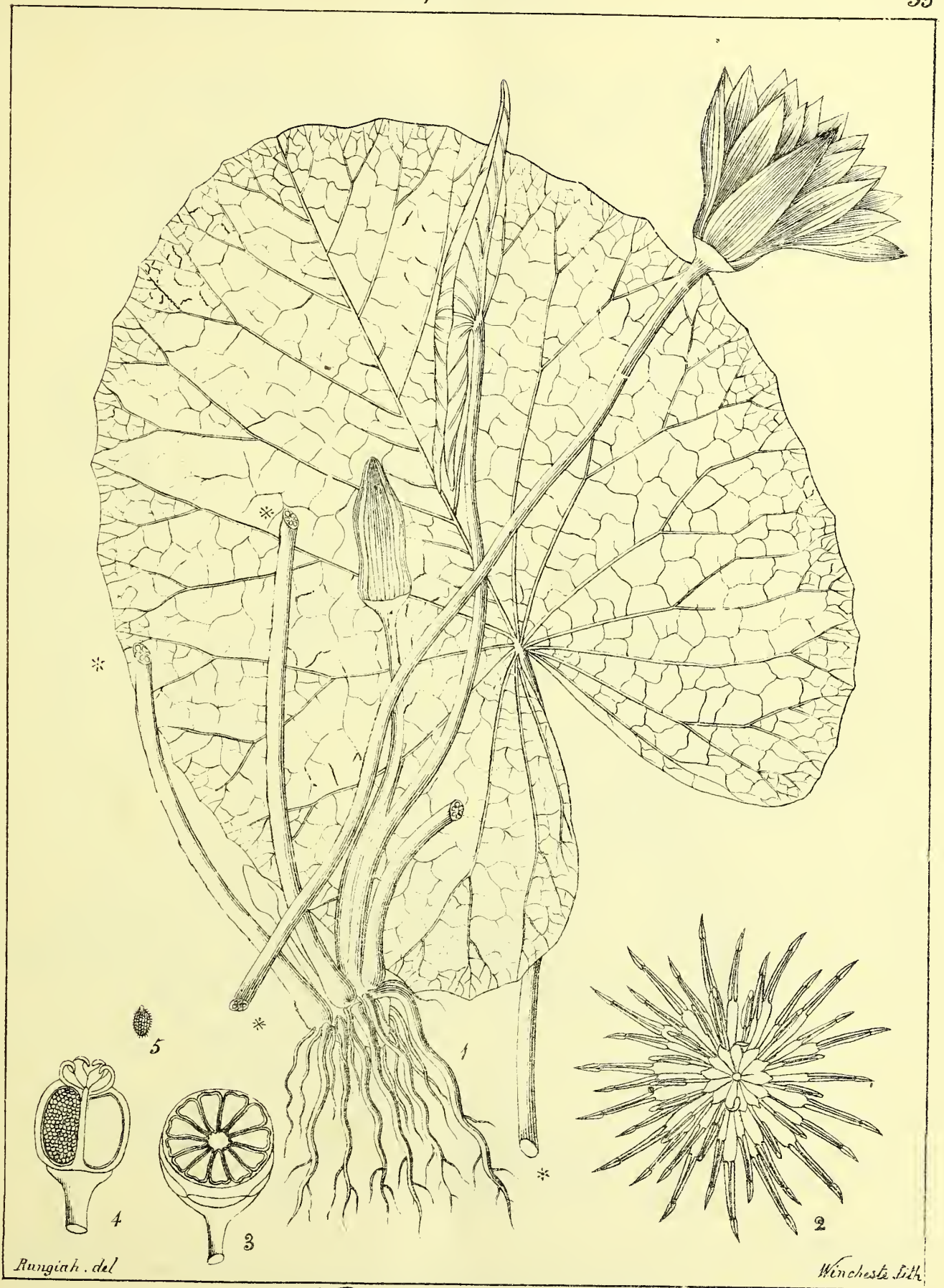
*Thompson, Lith.*

*Vitis lanceolaria* (Walt.)  
*Cissus lanceolaria* (Rost.)

*Barbarghiana* del.

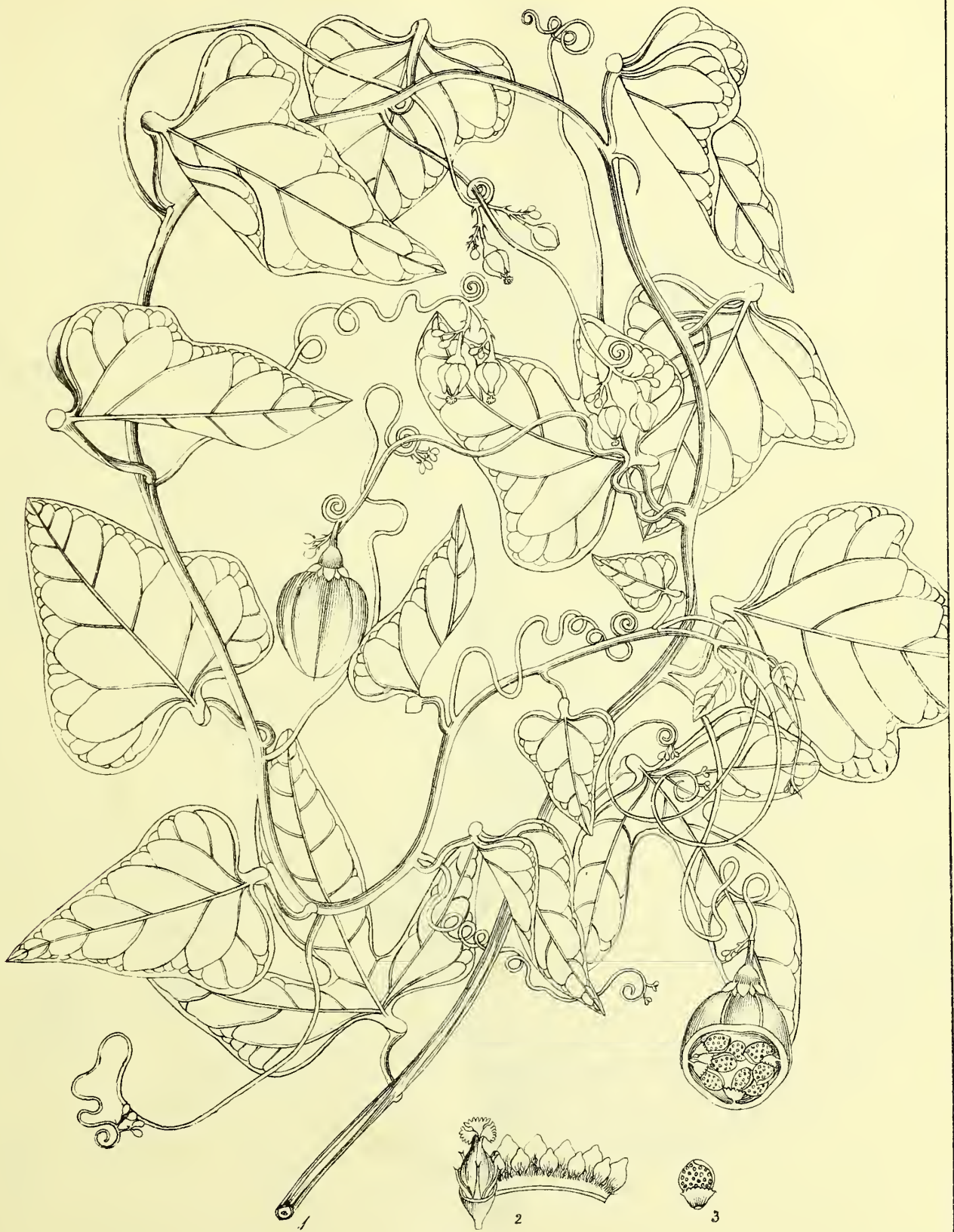






*Nymphaea stellata* (Willd.)





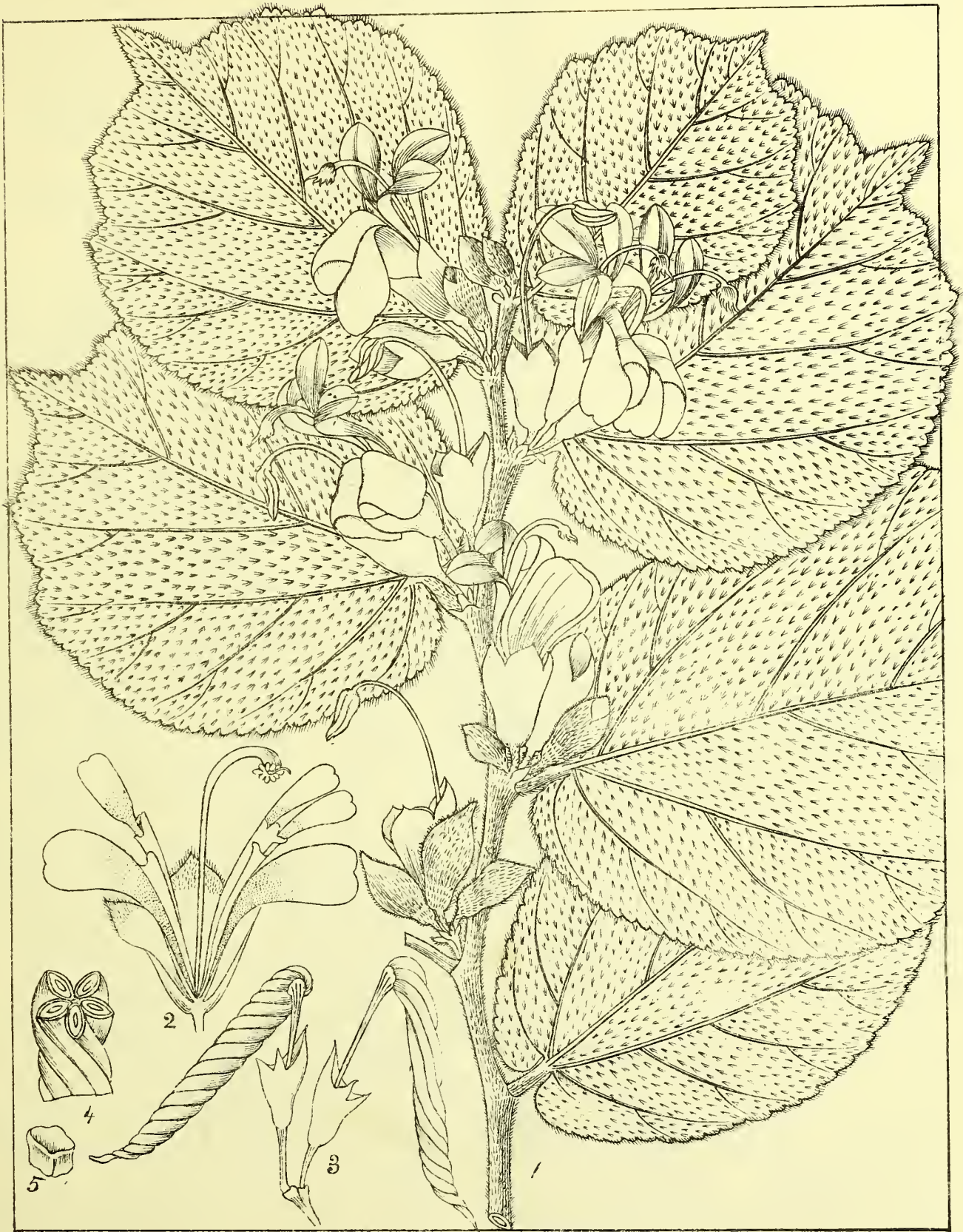
*Pungit. del*

*Winchester. Sc.*

*Modecca Wightiana (Wall.)*







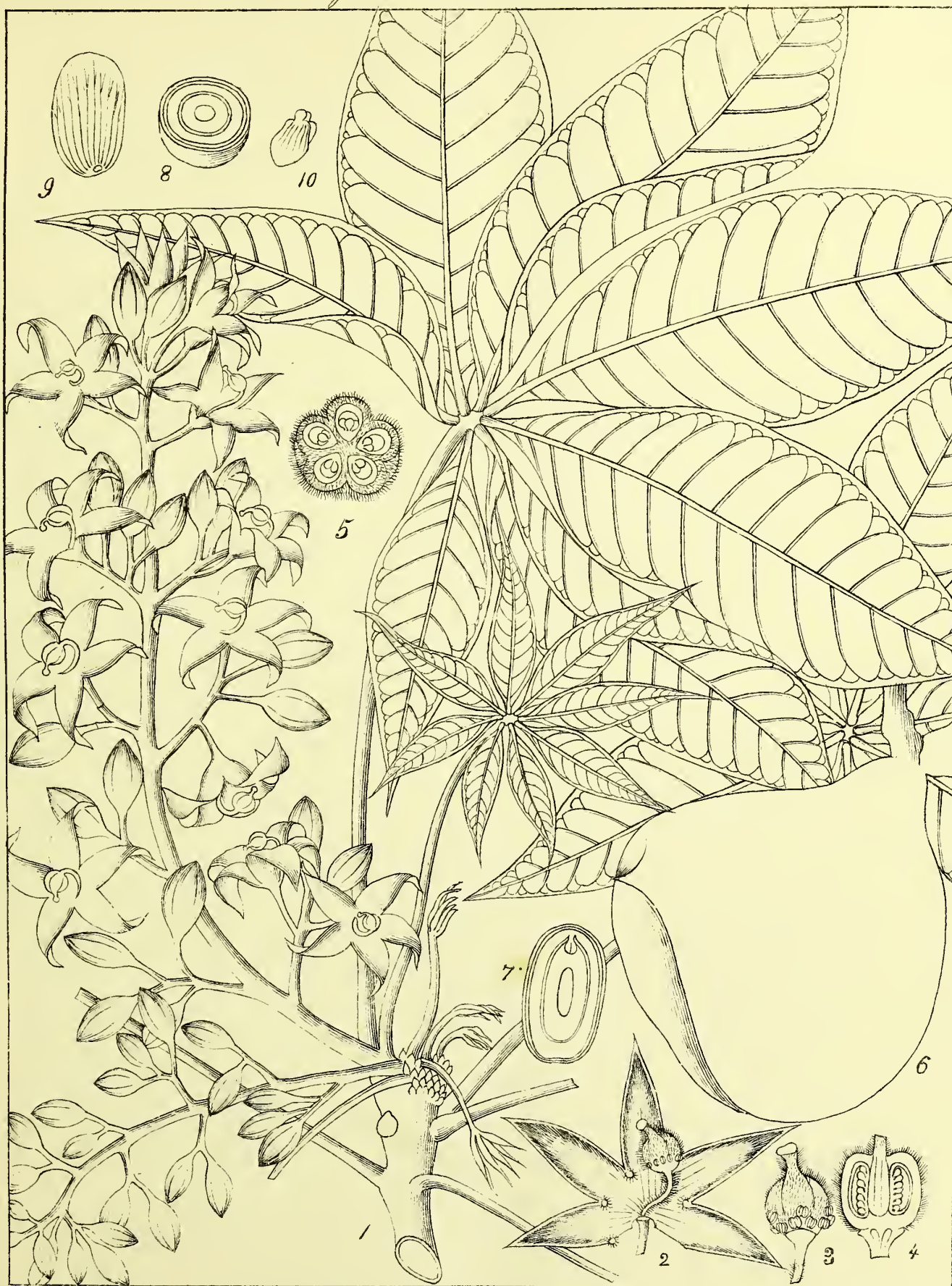
Ravgrah, del.

*Helicteres Isora* (Sinn.)  
*Isora corylifolia* (Endlicher)

Dumphy, lith













## EXPLANATION OF PLATES.

182. *Diospyros tomentosa*, Roxb. ♂ "Dioecous, all the tender parts very downy: leaves opposite and alternate, oval, entire: male—peduncles 3-flowered, calyx and corolla gibbous, 4-toothed: stamens 12, on a receptacle: female—solitary with the calyx and corolla, 5-parted: berry as far as 5-seeded." Roxb.

1. Flowering branch—2. A flower dissected and corolla removed to show the stamens—3. Corolla split open—*Copied from Roxburgh's figure.*

183. *Diospyros tomentosa*, Roxb. ♀ —1. Flowering branch—2. A flower dissected, corolla removed and calyx split open to show the ovary—3. Corolla—4-5. Full grown fruit seen in different positions to show the enlarged calyx—6. Fruit cut transversely—*Copied from Roxburgh's figure.*

184. *Ixora stricta*, Roxb. "Shrubby, straight: leaves subsessile, oblong; corymbs dense, compound hemispheric: laciniae of the corolla round spreading: anthers bristle pointed." Roxb.

1. Flowering branch—2. A corolla split open, to show the inferior ovary, style and stigma—3. A fruit—4. The same cut transversely—*Copied from Roxburgh's drawing.*

185. *Ixora barbata*, Roxb. "Tube of the corolla long: mouth bearded: leaves opposite, short petioled, oblong, entire, smooth, shining; floral leaves, round, cordate, sessile: panicles open." Roxb.

1. Flowering branch—2. A flower, the corolla split open—3. A fruit—4. The same cut transversely—*Copied from Roxburgh's drawing.*

186. *Ixora* (*Pavetta* Sm.) *tomentosa*, Roxb. "Shrubby: leaves oblong, ventricose, entire, tomentose: panicles lax, sub-globular, tomentose: style twice the length of the corolla: stigma entire: berries globular." Roxb.

*Obs.*—This is a species of *Pavetta*, which is distinguished from *Ixora* by the length of the style.

1. A flowering branch—2. The flower showing the style and stigma twice the length of the corolla—3. A fruit—4. The same cut transversely—*Copied from Roxburgh's drawing.*

187. *Rubia Mungista*, Roxb. "Perennial, scandent: leaves four-fold, long-petioled, cordate, acute from 5 to 7 nerved, hispid: corolla flat, 5-parted, pentandrous." Roxb.

1. Flowering branch—2-3. Flowers seen from above and from below—4. Stigma side and front views—5. Fruit cut transversely—6. A seed—7. The same cut to show the embryo—*Copied from Roxburgh's drawing.*

188. *Diospyros Ebenum*, Kün. "Leaves short petioled, alternate, bifarious, oblong, entire, polished: male flowers sub-racemed, with about 24 anthers: hermaphrodite, solitary, oetandrous; style single: stigma 4-cleft." Roxb.

1. Male-flowering branch—2. Receptacle and calyx—3. Corolla and stamens—4. Detached stamens—5. Female, flowering branch—6. Dissected flower, calyx, ovary, and cleft stigma—7. Corolla with attached stamens—8. A full grown fruit—9. The same cut transversely—10. The same seen from above umbilicate—11. A seed—12. The same cut transversely—*Copied from Roxburgh's drawing.*

189. *Diospyros ramiflora*, Roxb. "Arboreous, leaves lanceolate, glossy: hermaphrodite and male flowers in fascicles from the large woody branches: calyx and corolla from 5 to 6-parted, style from 5 to 6-cleft, berry with 10 or 20 seeds." Roxb.

1. A flowering branch with 2 fascicles of flowers—2. A younger branch and leaves—3. Calyx and ovary—4. Corolla and stamens—5. A full grown fruit seen from below—6. Seen from above—7. Cut transversely—8. A seed—*Copied from Roxburgh's drawing.*

190. *Rhopala exelsa*, Roxb. "Leaves alternate, short petioled, cuneate-oblong, obtuse, pointed smooth, with a few large blunt serratures near the apex: racemes axillary and terminal, as long as the leaves, downy: nectaral scales 4, distinct and naked." Roxb.

1. Flowering branch—2. Flowers, one dissected to show the nectaral scales and insertion of the stamens into the petals—3. Ovary, style and stigma removed—4. Ovary cut vertically—5. The same divided transversely—*Copied from Roxburgh's drawing.*

191. *Rhopala robusta*, Roxb. "Leaves alternate, sessile, cuneate, oblong, remotely serrulate: racemes axillary, and below the leaves smooth: nectary a smooth 4-toothed cup." Roxb.

1. Flowering branch—2. A dissected flower, showing the ovary *in situ*, embraced by the nectarial cup—3. The ovary cut vertically—4. The same cut transversely, showing the two collateral ovules—*Copied from Roxburgh's drawing.*

192. *Xanthochymus dulcis*, Roxb. "Polygamous leaves, opposite, oblong: flowers fascicled, lateral: corolla globular: fruit oval, obtuse, from one to 5-seeded." Roxb.

1. Flowering branch—2. A hermaphrodite fertile flower—3. A male one—4. A fascicle of stamens—5. An anther—6. The ovary detached, stigma radiate—7. The same cut vertically—8. Cut transversely—9. A full grown fruit—10. The same cut vertically and transversely—11. A germinating seed—12. The same cut longitudinally, showing the embryo traversing the albumen—*Copied from Roxburgh's drawing.*

193. *Spermacoe laevis*, Roxb. "Biennial, straight, round, smooth: leaves subsessile, lanceolar, corymbs terminal, anthers hid in the bearded mouth of the infundibuliform corolla." Roxb.

1. Flowering branch—2. A corolla split open, glabrous within—3. Ovary, calyx, style and stigma—4-5. Ovary cut transversely and vertically—6. The mature fruit enclosed in the calyx—7. The same cut transversely, 2-seeded—*Copied from Roxburgh's figure.*

194. *Alangium decapetalum*. "Leaves narrow, oblong, sometimes shortly and bluntly acuminate: petals 6-10." W. and A. Prod.

1. A flowering branch—2. Ovary, calyx, style and stigma, after the fall of the petals and stamens—3. An anther—4. A fruit cut transversely.

195. *Terminalia tomentosa*, W. and A. *Pentaptera*, Roxb. *D. C. and Wall.* "Back deeply cracked, leaves nearly opposite, linear, oblong, obtuse, somewhat cordate at the base, crenulate, pubescent, but finally glabrous above, tomentose or pubescent beneath, with some thick stalked turbinate glands on the midrib near the base—fruit glabrous." W. and A. Prod.

1. Flowering branch—2. A flower side view—3. The same seen from above—4. Calyx and ovary cut vertically, ovary with two pendulous ovules, calyx clothed within with hair—5. Ovary cut transversely, 1-celled, with two collateral ovules—6. A full grown fruit—7. Cut transversely, *both natural size.*

196. *Pterolobium lacerans*, Brown. "Shrubby, scandent, pinnæ 4-8 pair: leaflets 4-8 pair, oval, obtuse, or emarginate: petioles with usually 2-recurved prickles on the under side between each pair of pinnæ and one incurved one on the upper: racemes lax in the axils of the upper leaves, pedicels slender." W. and A. Prod.

1. Flowering branch—2. A flower—3. A stamen—4. Anthers—5. Ovary, style, stigma and a petal—6. Ovary cut vertically, 1-celled, with one pendulous ovule—7. A full grown legume with its wing—8. The same cut vertically, the shrivelled ovule showing that the seed has aborted though the legume has continued to grow—*all more or less magnified.*

197. *Hibiscus surattensis*, Linn. "Stem herbaceous, and as well as the petioles and pedicels rough with small recurved prickles: stipules half cordate, broad, foliaceous: leaves palmately 3-5-lobed, on long petioles, pedicels elongated, shorter than the petioles: leaves of the involucre linear, incurved, furnished on their back about the middle with an oblong, foliaceous, spreading appendage." W. and A. Prod.

1. A flowering branch—2. Column of stamens and ovary, style and stigma, separated, to show that the column is formed by the union of the filaments into a tube—3. Anthers 1-celled—4. A stigma—5. Ovary *in situ*, the calyx and involucre opened and turned back—6-7. Ovary cut vertically and transversely—8. A full grown fruit surrounded by the calyx—9. The same detached—10. Two valves separated, showing the seed *in situ*—11. A detached seed—12. The same, the testa partly removed to show the position of the radicle and cotyledons—13. Embryo-foliaceous, cotyledons and radicle—*all more or less magnified.*

198. *Inga dulcis*, (Willd.) Arboreous, extreme branches pendulous, armed with short straight stipular thorns: leaves bigeminate, (pinnæ and leaflets each one pair) leaflets oblong, very unequal-sided, obtuse, with a gland between the pinnæ and between the pairs of leaflets, petioles shorter than the leaflets; flowers capitate; heads shortly peduncled, racemose, the racemes panicle, legumes large, twisted, seeds glabrous and smooth, imbedded in a firm pulp.

1. Flowering branch—*natural size*—2. A flower—3. The same split open, showing the pedicelled ovary—4. Ovary detached—5-6. Ovary cut transversely and longitudinally—7. A full grown legume much twisted—8. The seed pulp with the seed enclosed—9. The pulp opened to show the seed *in situ*—10. A seed—11. Cut transversely—12. The lobes separated, showing the radicle and plumule at the small end—13. The radicle detached—*all more or less magnified.*

199. *Rothia trifoliata*, Pers.—1. A plant—*natural size*—2. A detached flower—3. The same, the petals removed showing the stamens monadelphous—4. Anthers—5. The ovary cut longitudinally—6. Petals detached and separately represented—7. A pod laid open, showing the seed—8. A detached seed—9. The testa partially removed to show the position of the radicle—10. Cotyledons and radicle—*all more or less magnified.*

200. *Crotolaria verrucosa*, Linn. "Herbaceous, erect, much branched, young parts minutely pubescent, stalks and racemes acutely 8-4 angled: stipules cuneate, transverse, recurved: leaves ovate, suddenly and shortly acuminate at the base, at length nearly quite glabrous on both sides: racemes terminal, and leaf opposed, many-flowered: bractees small, subulate, reflexed: pedicels rather shorter than the calyx, bracteoles very minute, setaceous about the middle of the pedicel: calyx smaller than the corolla, slightly pubescent, legume cylindrical, oblong, sessile, softly pubescent, many-seeded." W. and A. Prod.

1. Flowering branch—*natural size*—2. A dissected flower—3. The ovary cut longitudinally—4. A nearly mature pod opened—5. A seed—6. The same cut transversely—*all more or less magnified.*

201. *Modeeca palmata*. "Leaves from cordate acuminate, (on young plants) to palmately 3-5 lobed, glabrous, with two flat glands at the base and one below, each sinus between the lobes: stipules hardening and horn-like: male and female flowers both with 5 short abortive filaments, placed within the gibbositities of the calyx tube, capsule globular." W. and A. Prod.

1. Flowering branch (female)—2. A male flower—3-4. The stamens, filaments united below into a conical tube with an abortive ovary in the centre—5. An anther—6. Calyx (female) laid open, showing the hairy linear ciliated petals and abortive filaments—7. The same *in situ*, calyx open to show the ovary—8. An abortive filament—9. Ovary split open—10. A fruit after dehiscence—11. A seed enclosed in its arillus—12. Seed detached—13. Cut vertically, showing the embryo enclosed in its albumen—14. The same cut vertically, showing the embryo *in situ*—15. Embryo removed—*all more or less magnified.*

Hortughiane

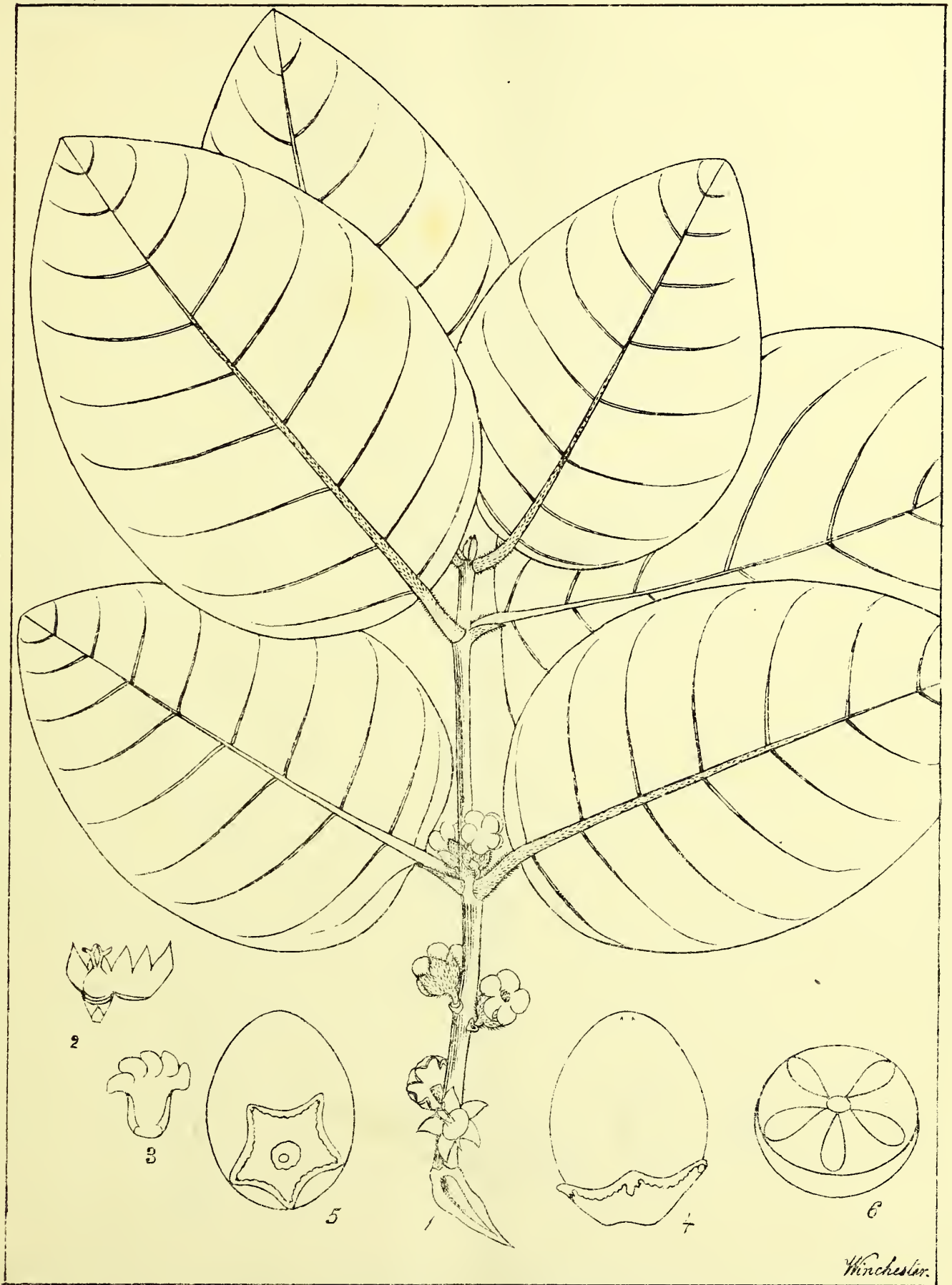
Elaeagnaceae.



*Diospyros tomentosa-mas* (Roxb.)



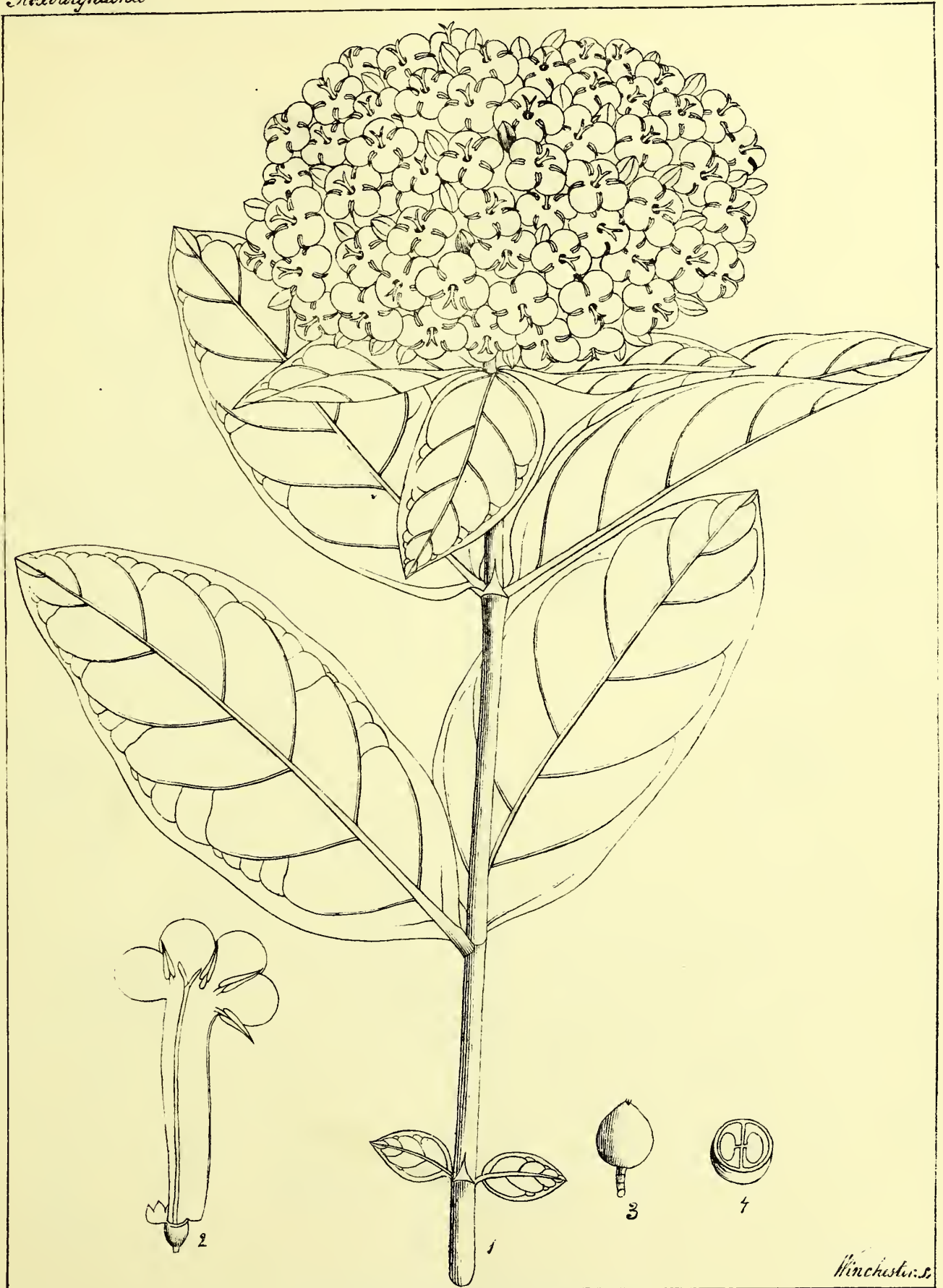




Winchester.

*Diospyros tomentosa* - sem. (Roxb.)

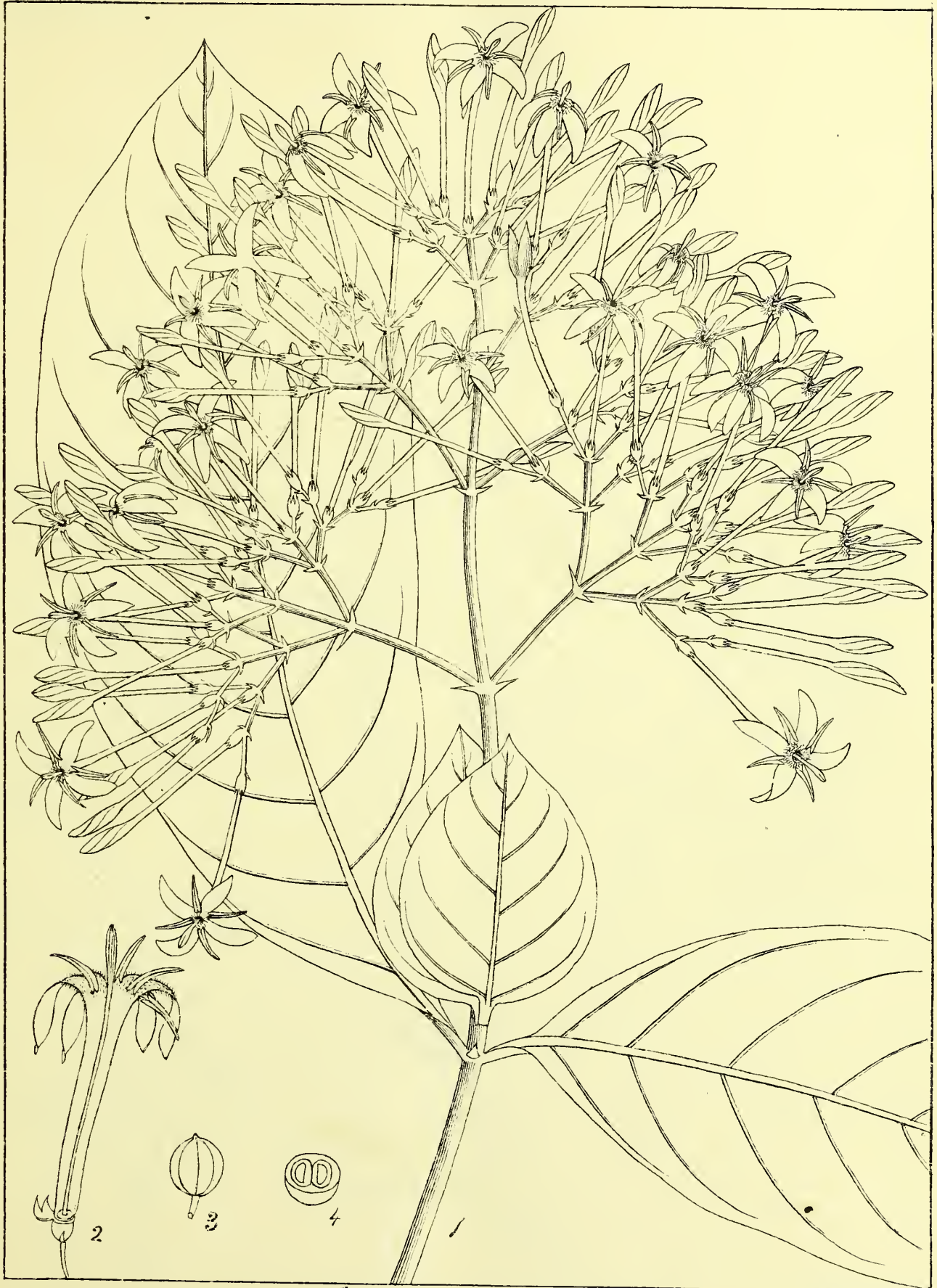




*Ixora stricta* (Roxb.)







*Ixora barbatata*. (R.)

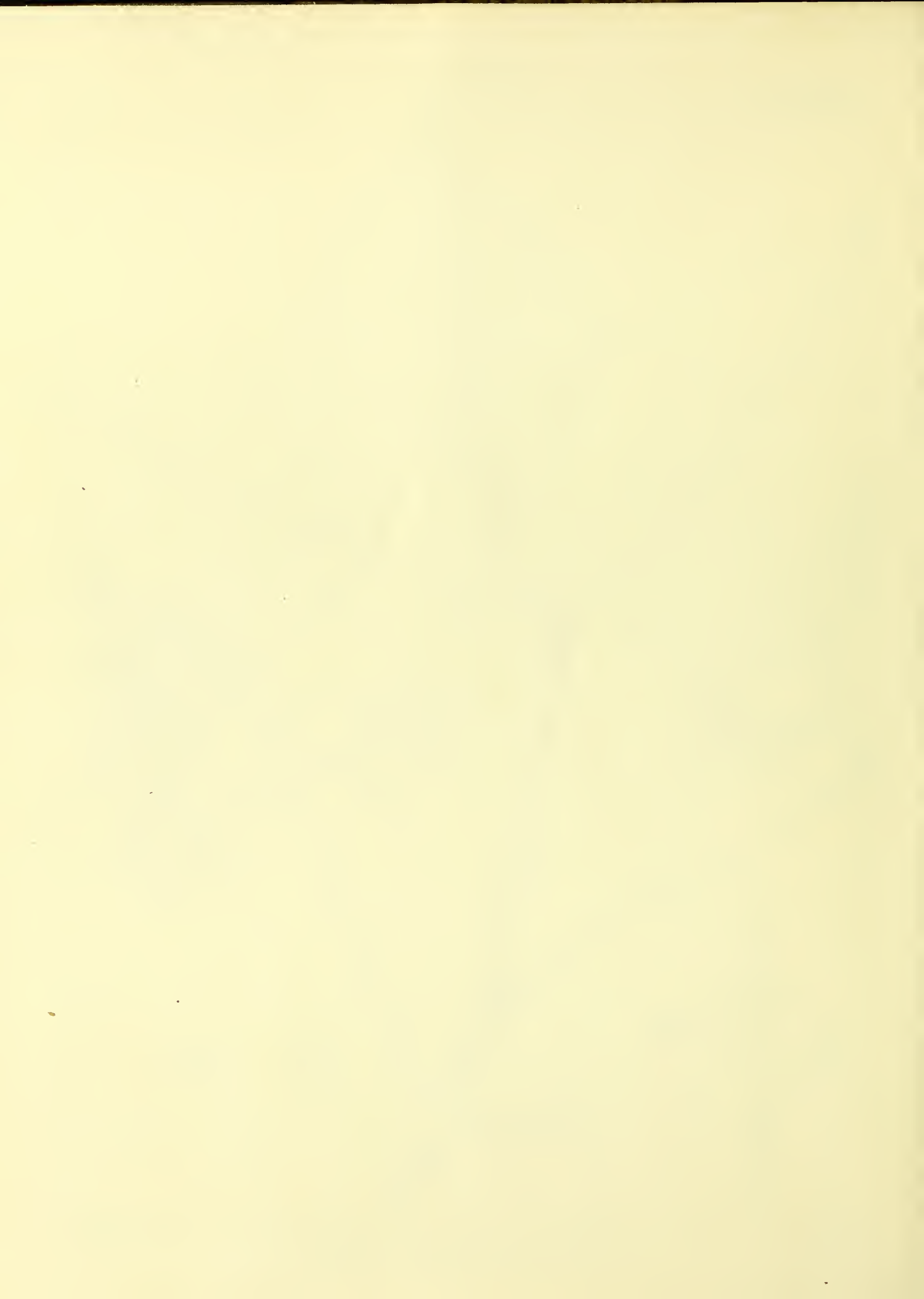
Vincheslor Scit.





*Ixora tomentosa* (Roxb.)

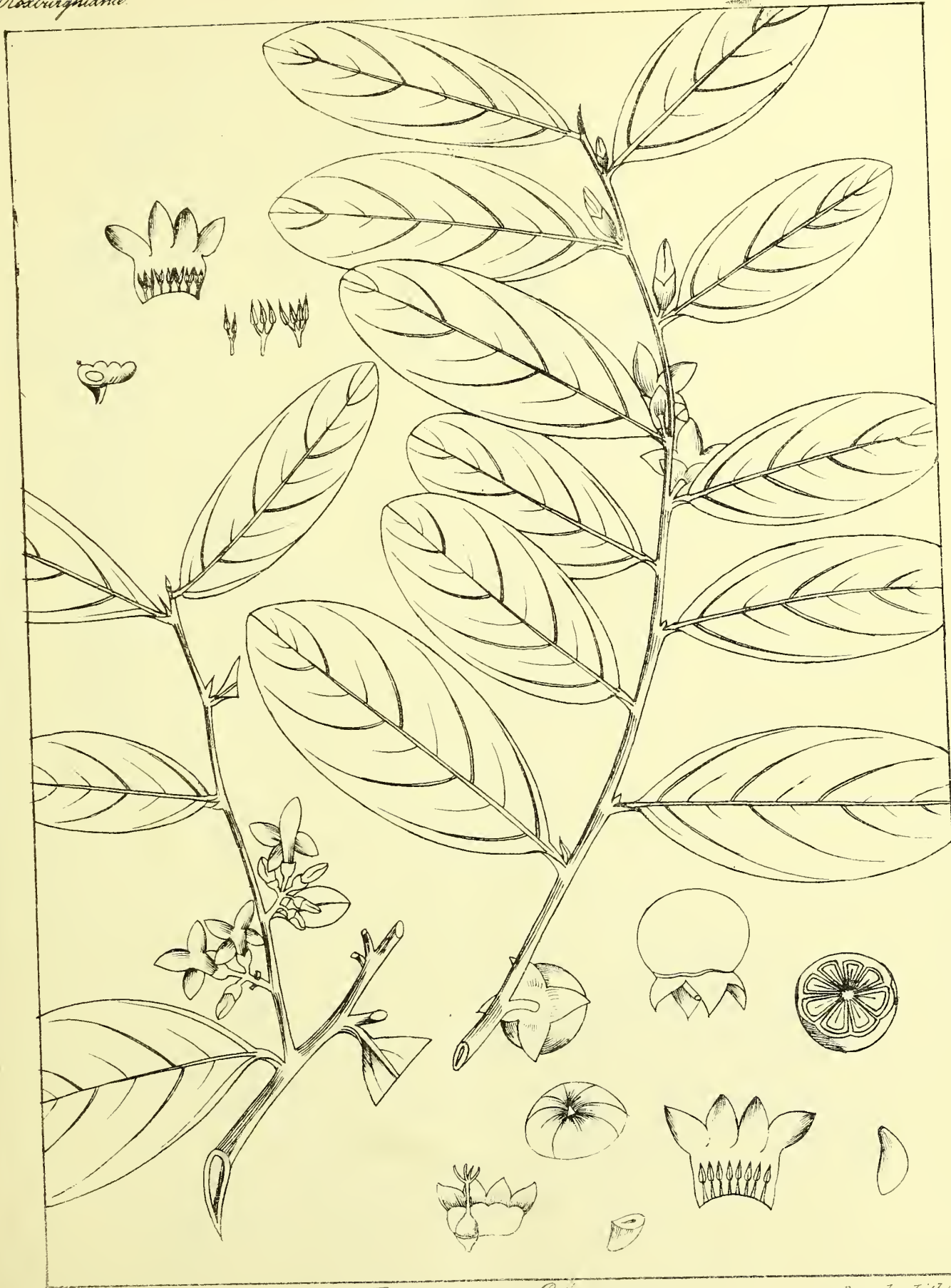






*Rubia munjiata* (Roxb.)



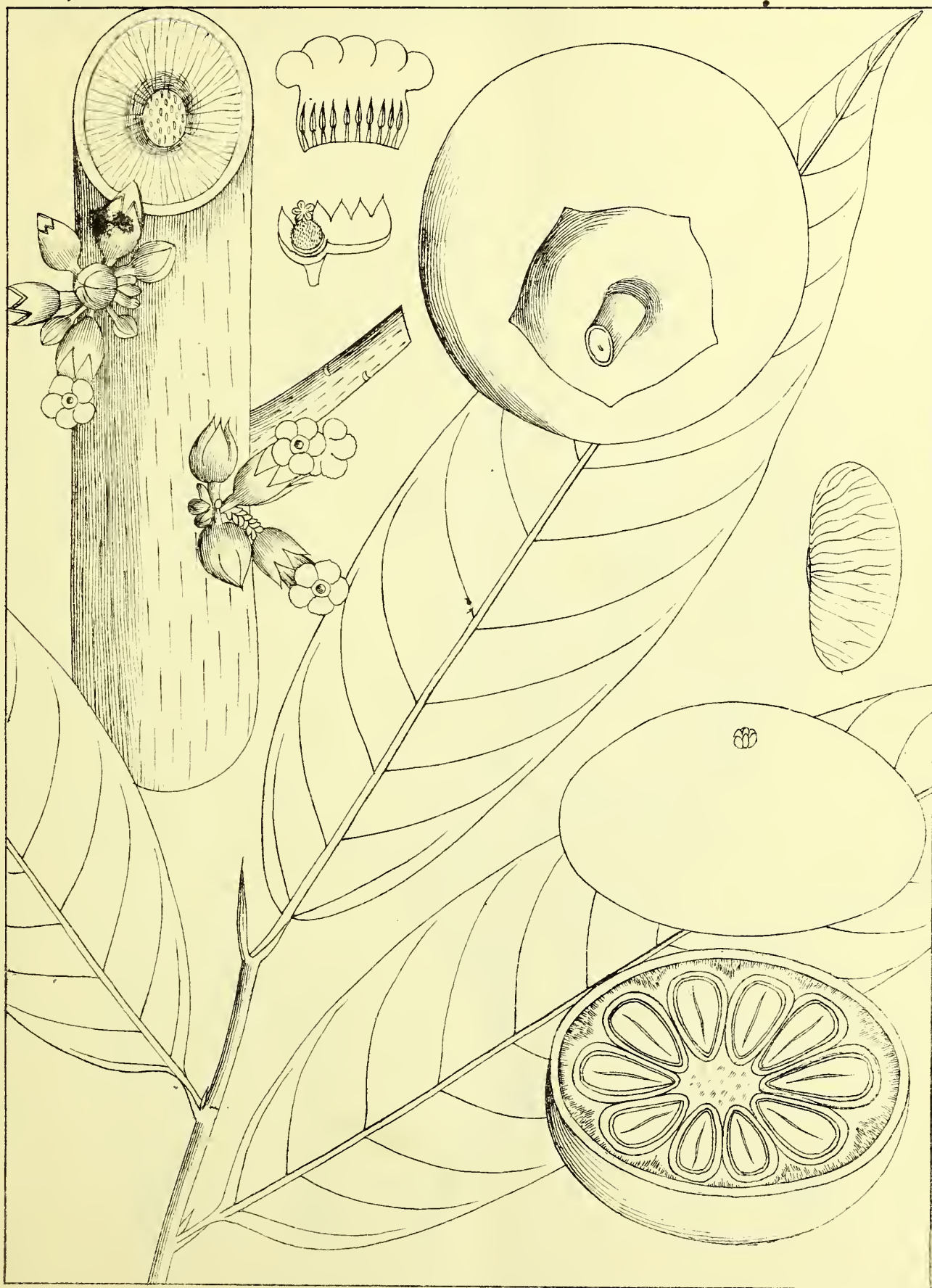


*Diospyros Ebenum.*

Dumphy, Lith.







*Diospyros ramiflora* (Roxb.)





*Rhopala excelso* (Roxb.)

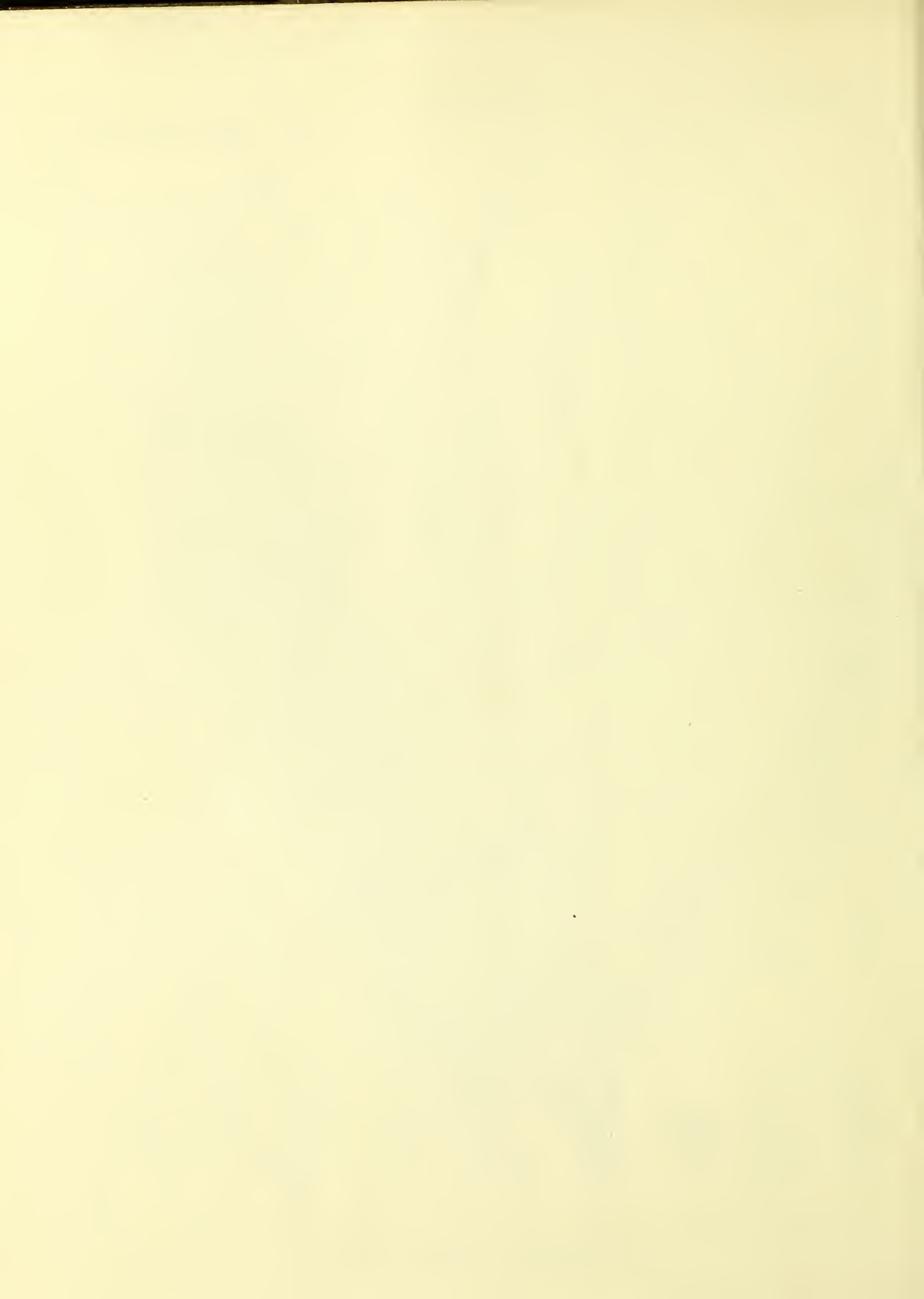


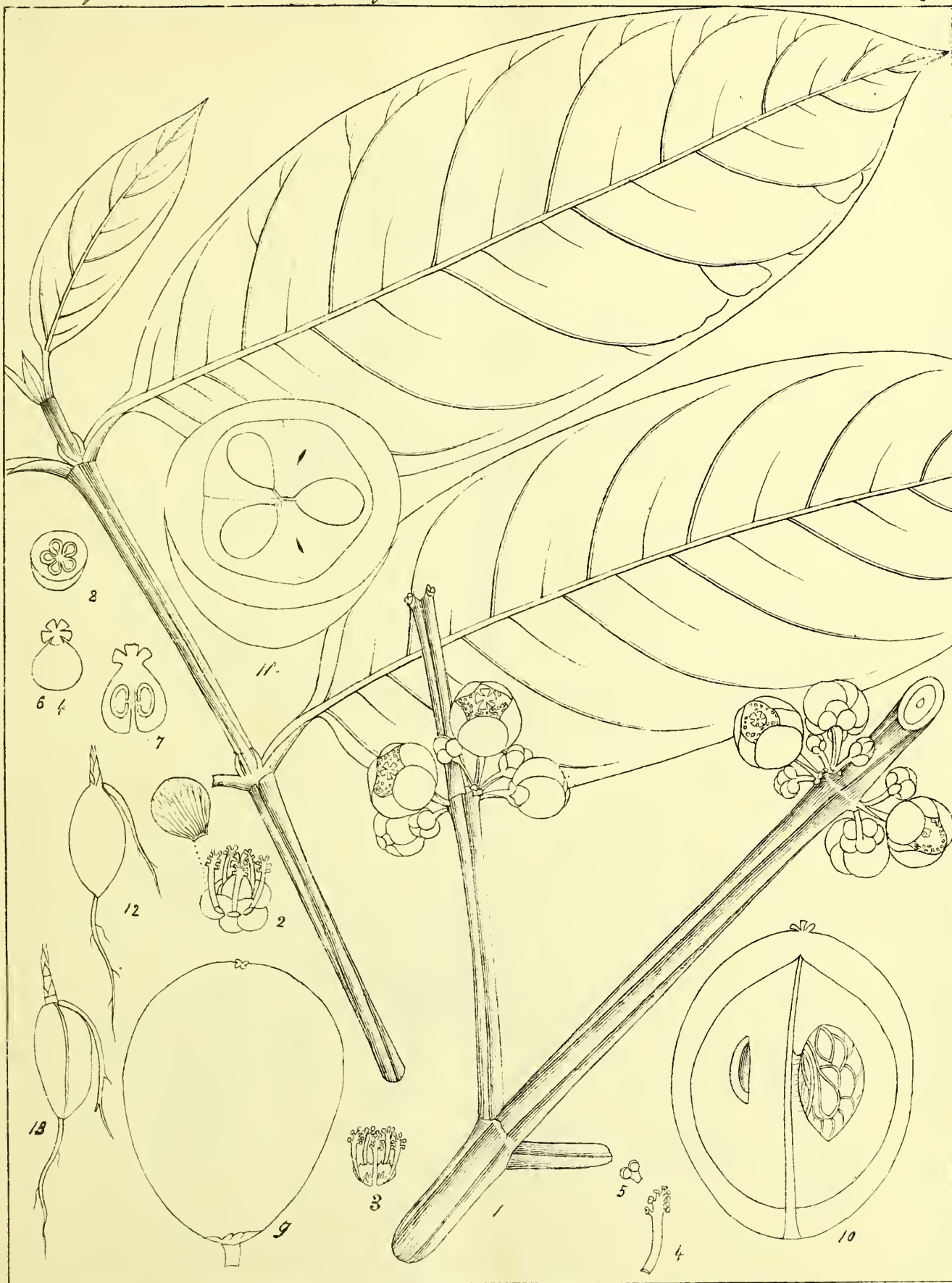




*Rhopala robusta* (Roxb.)

Dumphy, Lich.





*Xanthochymus dulcis* (Roxb.)

Damp'hy, Lith.







*Spermacoce levis* (Roxb.)





Rungiah. del.

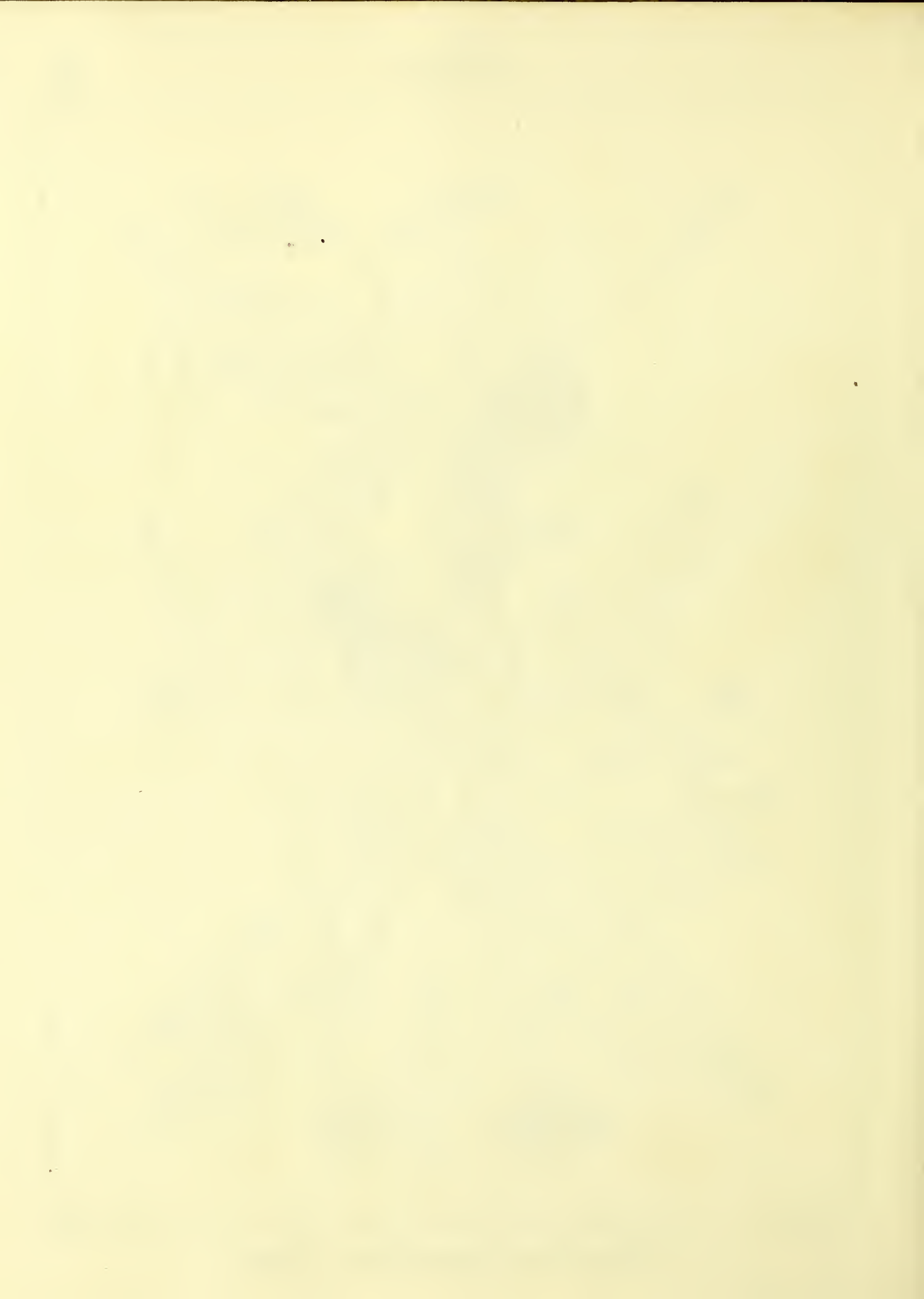
Winchester. Lith.

21395 F. 10510

*Alangium* *decapetalum*.

*Alangium decapetalum*. (Lam.)







Pungiah. del

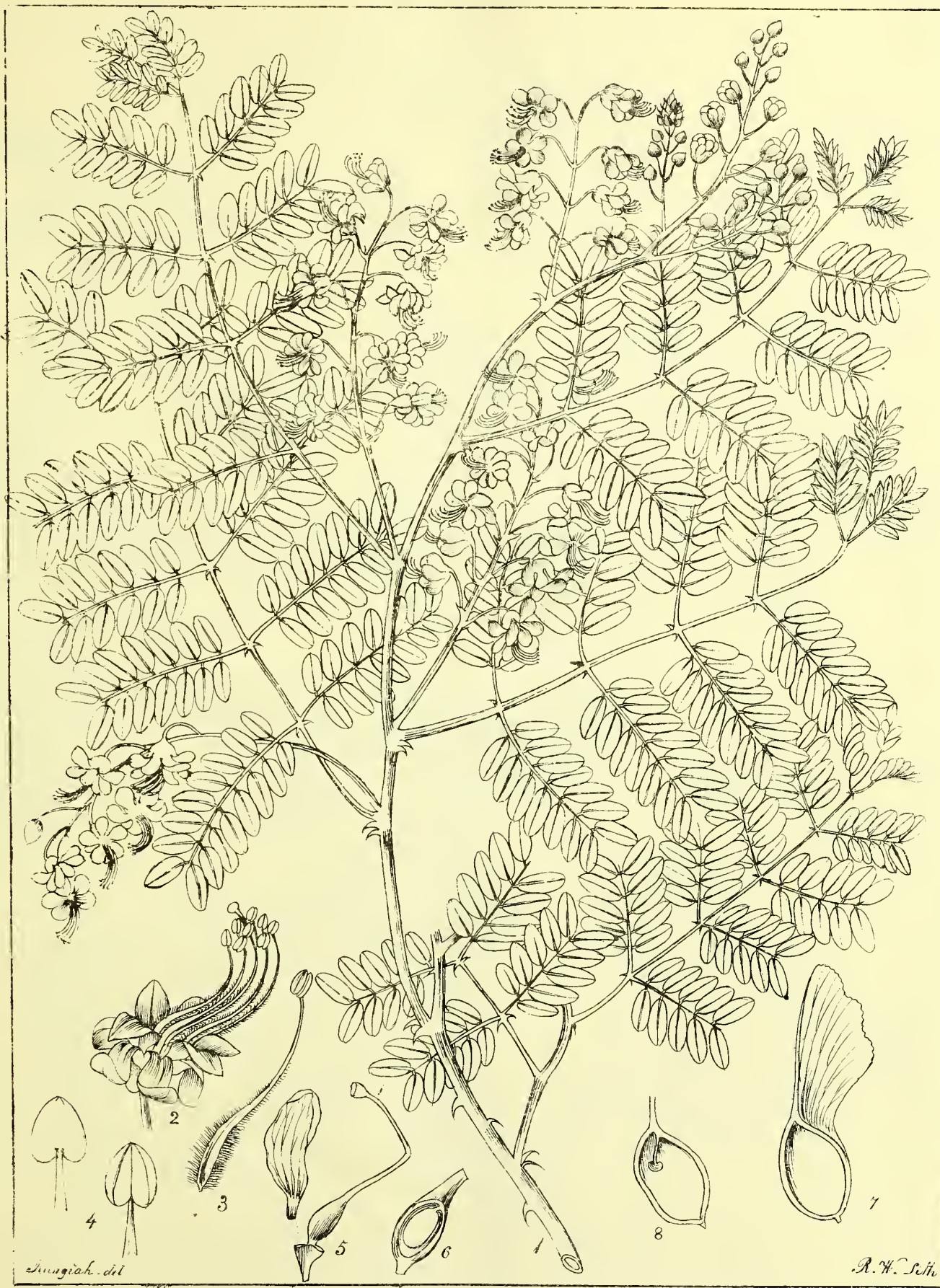
R. W. Smith

மரத்தொழில்  
Marathy. narum

*Terminalia tomentosa.* (W. & A.)







*Amoghah. del.*

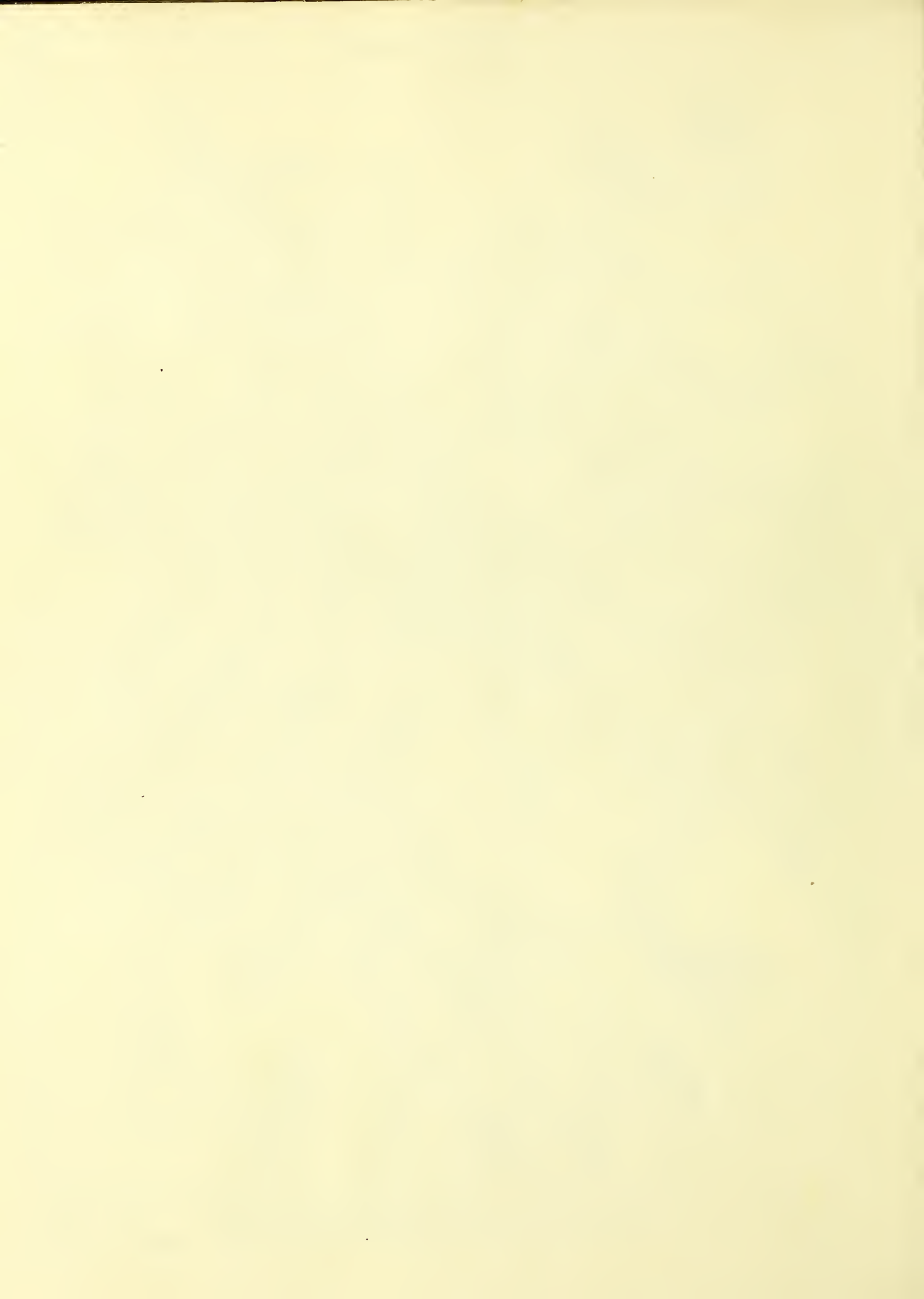
*R. W. Smith*

புளியாண்டு }  
Bolehundur. } *Son*

*Pterolobium lacerans. (Brown.)*

செங்கொத்த }  
*Senna koranthu* } *Gen*







Rungiah del.

R. H. Sitt

காசுலக்கேரிக்  
Casulkeerie

*Hibiscus Surattensis*. (Linn.)

கொங்கோராகூ  
Gongkooracoo } Gent





Mimosae

Leguminosae

Acacia 198  
820.

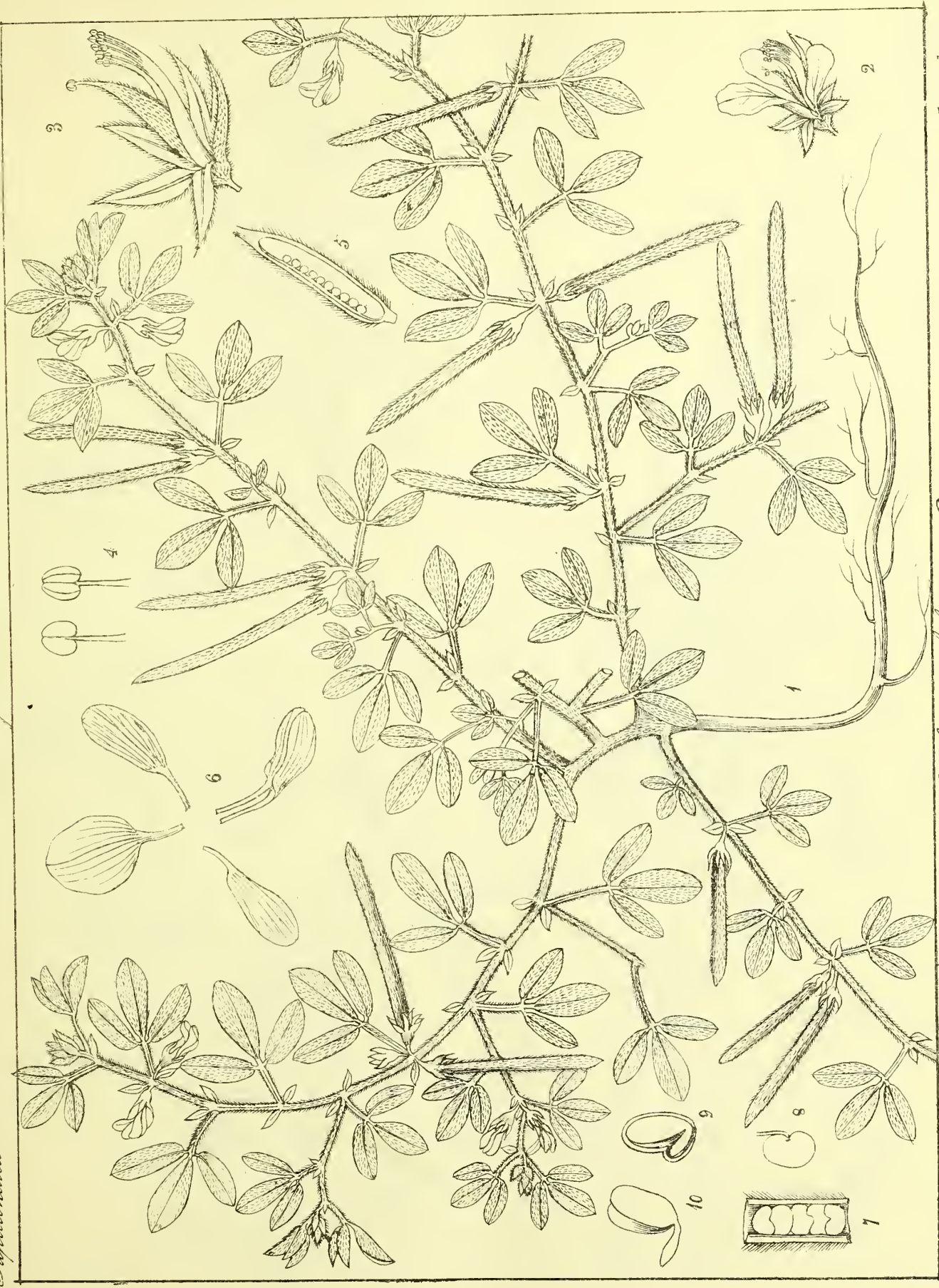


கொங்கா பழம்  
*Korokapodeemmarum*

*Inga dulcis* (Willd.)







*Rothia*, Lich.

*Rothia trifoliata* (Pers.)

*Rarguá*, del.



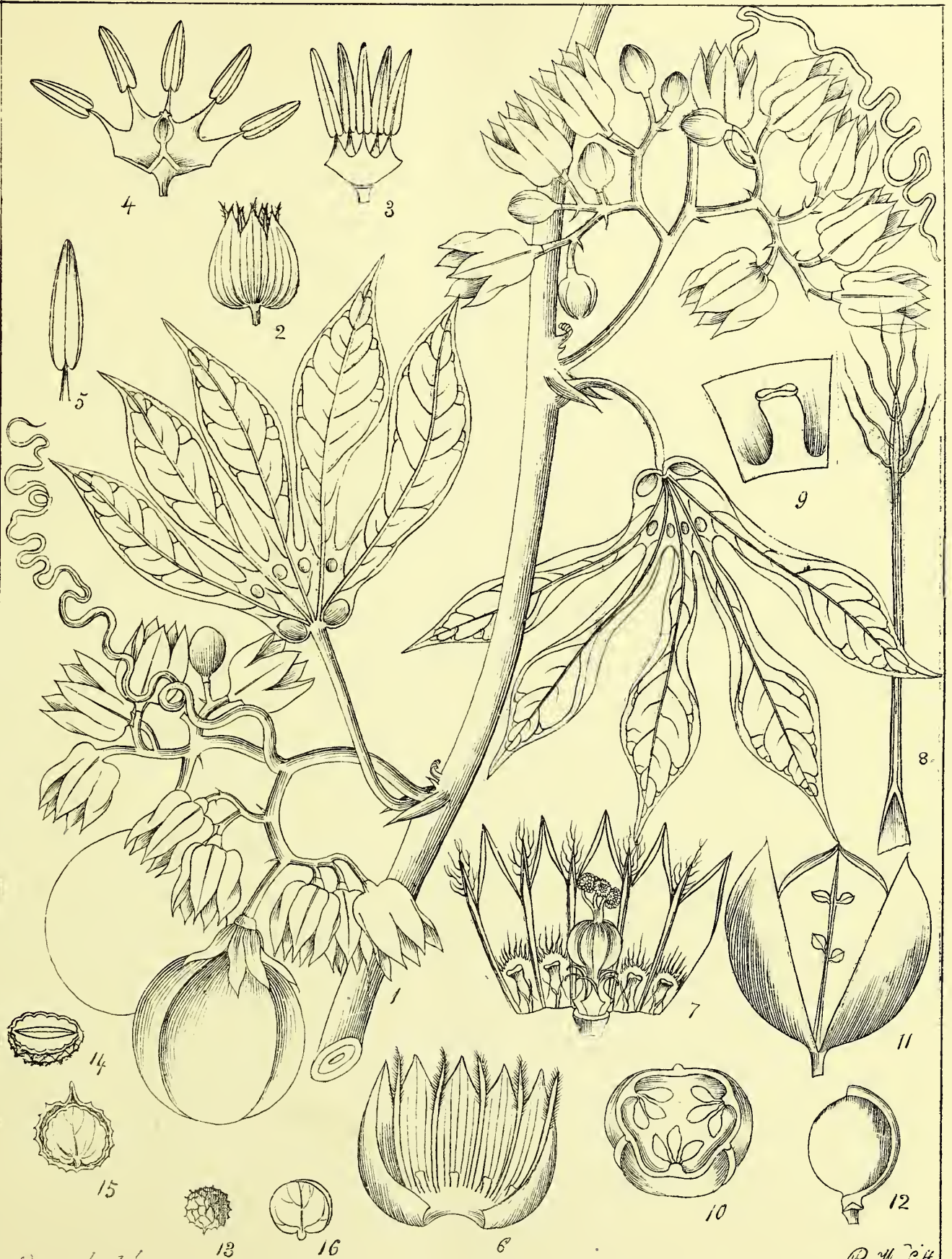




211. 212. 213. 214. 215. 216. 217. 218. 219. 220. 221. 222. 223. 224. 225. 226. 227. 228. 229. 230. 231. 232. 233. 234. 235. 236. 237. 238. 239. 240. 241. 242. 243. 244. 245. 246. 247. 248. 249. 250. 251. 252. 253. 254. 255. 256. 257. 258. 259. 260. 261. 262. 263. 264. 265. 266. 267. 268. 269. 270. 271. 272. 273. 274. 275. 276. 277. 278. 279. 280. 281. 282. 283. 284. 285. 286. 287. 288. 289. 290. 291. 292. 293. 294. 295. 296. 297. 298. 299. 300. 301. 302. 303. 304. 305. 306. 307. 308. 309. 310. 311. 312. 313. 314. 315. 316. 317. 318. 319. 320. 321. 322. 323. 324. 325. 326. 327. 328. 329. 330. 331. 332. 333. 334. 335. 336. 337. 338. 339. 340. 341. 342. 343. 344. 345. 346. 347. 348. 349. 350. 351. 352. 353. 354. 355. 356. 357. 358. 359. 360. 361. 362. 363. 364. 365. 366. 367. 368. 369. 370. 371. 372. 373. 374. 375. 376. 377. 378. 379. 380. 381. 382. 383. 384. 385. 386. 387. 388. 389. 390. 391. 392. 393. 394. 395. 396. 397. 398. 399. 400. 401. 402. 403. 404. 405. 406. 407. 408. 409. 410. 411. 412. 413. 414. 415. 416. 417. 418. 419. 420. 421. 422. 423. 424. 425. 426. 427. 428. 429. 430. 431. 432. 433. 434. 435. 436. 437. 438. 439. 440. 441. 442. 443. 444. 445. 446. 447. 448. 449. 450. 451. 452. 453. 454. 455. 456. 457. 458. 459. 460. 461. 462. 463. 464. 465. 466. 467. 468. 469. 470. 471. 472. 473. 474. 475. 476. 477. 478. 479. 480. 481. 482. 483. 484. 485. 486. 487. 488. 489. 490. 491. 492. 493. 494. 495. 496. 497. 498. 499. 500. 501. 502. 503. 504. 505. 506. 507. 508. 509. 510. 511. 512. 513. 514. 515. 516. 517. 518. 519. 520. 521. 522. 523. 524. 525. 526. 527. 528. 529. 530. 531. 532. 533. 534. 535. 536. 537. 538. 539. 540. 541. 542. 543. 544. 545. 546. 547. 548. 549. 550. 551. 552. 553. 554. 555. 556. 557. 558. 559. 560. 561. 562. 563. 564. 565. 566. 567. 568. 569. 570. 571. 572. 573. 574. 575. 576. 577. 578. 579. 580. 581. 582. 583. 584. 585. 586. 587. 588. 589. 590. 591. 592. 593. 594. 595. 596. 597. 598. 599. 600. 601. 602. 603. 604. 605. 606. 607. 608. 609. 610. 611. 612. 613. 614. 615. 616. 617. 618. 619. 620. 621. 622. 623. 624. 625. 626. 627. 628. 629. 630. 631. 632. 633. 634. 635. 636. 637. 638. 639. 640. 641. 642. 643. 644. 645. 646. 647. 648. 649. 650. 651. 652. 653. 654. 655. 656. 657. 658. 659. 660. 661. 662. 663. 664. 665. 666. 667. 668. 669. 670. 671. 672. 673. 674. 675. 676. 677. 678. 679. 680. 681. 682. 683. 684. 685. 686. 687. 688. 689. 690. 691. 692. 693. 694. 695. 696. 697. 698. 699. 700. 701. 702. 703. 704. 705. 706. 707. 708. 709. 710. 711. 712. 713. 714. 715. 716. 717. 718. 719. 720. 721. 722. 723. 724. 725. 726. 727. 728. 729. 730. 731. 732. 733. 734. 735. 736. 737. 738. 739. 740. 741. 742. 743. 744. 745. 746. 747. 748. 749. 750. 751. 752. 753. 754. 755. 756. 757. 758. 759. 760. 761. 762. 763. 764. 765. 766. 767. 768. 769. 770. 771. 772. 773. 774. 775. 776. 777. 778. 779. 780. 781. 782. 783. 784. 785. 786. 787. 788. 789. 790. 791. 792. 793. 794. 795. 796. 797. 798. 799. 800. 801. 802. 803. 804. 805. 806. 807. 808. 809. 810. 811. 812. 813. 814. 815. 816. 817. 818. 819. 820. 821. 822. 823. 824. 825. 826. 827. 828. 829. 830. 831. 832. 833. 834. 835. 836. 837. 838. 839. 840. 841. 842. 843. 844. 845. 846. 847. 848. 849. 850. 851. 852. 853. 854. 855. 856. 857. 858. 859. 860. 861. 862. 863. 864. 865. 866. 867. 868. 869. 870. 871. 872. 873. 874. 875. 876. 877. 878. 879. 880. 881. 882. 883. 884. 885. 886. 887. 888. 889. 890. 891. 892. 893. 894. 895. 896. 897. 898. 899. 900. 901. 902. 903. 904. 905. 906. 907. 908. 909. 910. 911. 912. 913. 914. 915. 916. 917. 918. 919. 920. 921. 922. 923. 924. 925. 926. 927. 928. 929. 930. 931. 932. 933. 934. 935. 936. 937. 938. 939. 940. 941. 942. 943. 944. 945. 946. 947. 948. 949. 950. 951. 952. 953. 954. 955. 956. 957. 958. 959. 960. 961. 962. 963. 964. 965. 966. 967. 968. 969. 970. 971. 972. 973. 974. 975. 976. 977. 978. 979. 980. 981. 982. 983. 984. 985. 986. 987. 988. 989. 990. 991. 992. 993. 994. 995. 996. 997. 998. 999. 1000. 1001. 1002. 1003. 1004. 1005. 1006. 1007. 1008. 1009. 1010. 1011. 1012. 1013. 1014. 1015. 1016. 1017. 1018. 1019. 1020. 1021. 1022. 1023. 1024.







Rengas del.

R. W. Pith

*Modecca palmata* (Lam.)







# No. XI. EXPLANATION OF PLATES.

202. *Phascolus Pulniensis*, R. W. Root tuberous: stems procumbent diffuse, and with the leaves and elongated peduncles hairy: leaflets ovate, lanceolate, acute: stipules small, lanceolate, attached by the base: peduncles very long, ascending, curved, one-flowered: flowers large: legume cylindrical, somewhat clavate, tapering towards the point, hairy.

Hab.—*Pulney mountains, creeping among long grass at an elevation of about 6000 feet*

1. Plant, *natural size*—2. A dissected flower—3. Ovary divided lengthwise, showing the ovules—4. Legume, *natural size*—5. A portion opened to show the seed *in situ*—*natural size*—6. A seed—7. The same cut transversely—8. The same cut vertically—9. Cotyledons and radicle, testa removed—with the exceptions mentioned, all more or less magnified.

203. *Lablab vulgaris*. Legume broadly scimitar shaped, gibbous below the apex, and ending abruptly in a straight or recurved cuspidate point, seeds longitudinally oval.

1. Flowering plant, *natural size*—2. A dissected flower—3. A legume, *natural size*—4. Portion of the same opened to show the seed—5. A seed, *natural size*—6. The same, the testa partially removed.

204. *Zanthoxylon triphyllum*, Juss. Unarmed: leaves opposite, palmately 3-foliolate; leaflets oval, oblong, acuminate, somewhat unequal-sided at the base, glabrous: peduncles axillary, longer than the petioles, corymbs large, spreading, flowers numerous, minute: carpels 1-4, spreading, 1-seeded, seed globose, glossy black.

1. Flowering branch, *natural size*—2. A male flower, petals removed to show the stamens and sterile ovary—3. Fertile flower, petals removed, one shown separately—4. Stamens—5. Ovary cut vertically—6. Transversely—7. A carpel burst, showing the enclosed seed, *natural size*—8. A seed removed—9. Seed cut transversely, embryo enclosed in albumen—10. Embryo detached—with the exceptions mentioned, all more or less magnified.

205. *Monocera ferruginea*, R. W. Arboreous: leaves coriaceous, oval, acute, at first villous, afterwards glabrous above, tomentose, rusty coloured beneath, oval, acute at both ends: racemes axillary, shorter than the leaves, many-flowered, flowers drooping, and with the rachis clothed with rusty tomentum: sepals lanceolate: petals involute on the margin, many-toothed, anthers glabrous, bristle straight, drupe oval.

*Neilgherries*—Messrs. Munro and Gough. The specimen figured was communicated by Mr. Gough. A very distinct species nearly allied to *M. tuberculata*, but quite distinct.

1. Flowering branch, *natural size*—2. A flower—3. The same, the sepals forcibly opened and the petals removed to show the stamens—4. Stamens—5. Ovary—6. Ovary cut vertically—7. Cut transversely—8. A portion of the upper surface of the leaf—9. The under surface.

206. *Jonesia Asoca*, Roxb. Arboreous: leaflets 4-6 pairs, lanceolate, racemes terminal and axillary, cymose, stamens usually seven: legume compressed, ovules, all except the terminal one often aborting.

1. Flowering branch, *natural size*—2. A flower split open, showing the long pedicel of the ovary—3. An anther—4. A legume, *natural size*—5. A seed—6. The same cut transversely—all, except the anther, slightly magnified.

207. *Mellettia rubiginosa*. Young parts, petioles and racemes covered with rusty tomentum: leaflets 2-3, oblong, lanceolate, acuminate, when young covered with a shining yellowish adpressed pubescence, afterwards more glabrous, racemes elongated, drooping, nearly as long as the leaves, solitary, with shortish lateral peduncles, bearing 3-5 flowers, calyx minutely toothed: vexillum silky on the outside, with two large tomentose cuculities on the inside at its base: ovary with 3 ovules: legume linear, lanceolate, pointed.

The specimen here figured was found at Courtallum, I have since got fruit of apparently a different species from Goomsoor.

1. Flowering branch—2. Flower dissected—3. Anthers—4. An ovary split open—all more or less magnified.

208. *Crotalaria oblecta*, Graham. Suffrutescent, erect, covered all over with short dense tomentum: branches terate: stipules and bracteas setaceous, minute: leaves oval, mucronate: racemes terminal, elongated; flowers numerous, approximated: bracteoles on the middle of the petioles, setaceous: calyx deeply 5-cleft, densely covered with rusty tomentum; segments all distinct, linear, acuminate, falcate: legumes sessile, oblong, rather broader upwards, about 4 times as long as the calyx, densely tomentose, many-seeded.

1. Flowering branch, *natural size*—2. A dissected flower—3. 4. Anthers—5. Ovary split open—6. Legume, *natural size*—7. A seed, *natural size*—8. Cut vertically—9. Cotyledons removed from the testa—all with the exceptions mentioned, more or less magnified.

209. *Desmodium congestum*, Wall. Shrubby: old branches glabrous: young shoots obtusely triangular, clothed with whitish pubescence: leaves 3-foliolate; leaflets oblong-lanceolate, nearly glabrous, except the white pubescent parallel nerves beneath: stipules lanceolate, acuminate: peduncles axillary, solitary, several times shorter than the petioles: flowers numerous, somewhat umbelled: calyx, segments broad, about equal: legumes compressed, slightly pubescent, 4-6 jointed.

1. Flowering branch, *natural size*—2. A flower—3. A cluster of fruit, *natural size*—4. A legume split open—5. A seed—6. The same cut lengthwise, showing the curved embryo—7. The cotyledons.

210. *Butia parviflora*, Roxb. Arboreous, twining: racemes, panicle: pedicels 3-4 times shorter than the calyx: flowers very numerous: calyx, segments nearly as long as the tube, acuminate: corolla glabrous, about twice the length of the calyx: vexillum ovate, emarginate at the apex.

1. A flowering branch, *natural size*—2. A dissected flower—magnified.

211. *Quercus semiserrata*, Roxb. Leaves petioled, lanceolar firm and lucid, anterior margins serrate; veins simple and parallel. Female flowers in axillary pairs. Nuts oval, acuminate, smooth, of a chestnut colour, base only, embraced by the saucer-shaped, thick, belted, villous cup. Roxb.

1. Flowering branch, *natural size*—2. Female flower with its involucrum—3. A full grown acorn—4. The same cut vertically, showing the embryo at the apex. Copied full size from Roxburgh's drawing.

212. *Quercus laeaeifolia*, Roxb. Leaves short petioled, lanceolar, entire, obtusely acuminate, firm and lucid. Spikes panicle, terminal. Nuts oval: cup in some completely covering the nut, in others variously split and covering more or less of its lower part only. Roxb.

1. Male plant, flowering branch—2. Female fruit, bearing branch—3. The nut cut vertically, showing the plicate cotyledons, and the manner the integument of the seed enters between the folds—4. Two seed, "so closely united as to seem a simple seed with a double coraculum at the apex."

213. *Quercus squamata*, Roxb. Leaves broad, lanceolar, entire, somewhat acuminate, coriaceous and glossy. Spikes axillary and terminal, often compound, the terminal ones panicle, cups growing together massy, rough and scaly, embracing slightly, the base of the hemispherical, hard, glossy, nut. Roxb.

1. Male flowering branch—2. A male flower opened seen from above—3. Female—A fruit bearing branch—4. An acorn cut vertically.

214. *Eucnymus crenulatus*, Wall. Leaves elliptical, obtuse, short petioled, crenulato-serrated towards the apex, coriaceous, convex and bullate above: peduncles solitary, shorter than the leaves, once or twice dichotomous, few flowered, petals 5 (or occasionally 6) orbicular; stamens very short; anthers opening transversely, margin of the torus free: style very short, stigma blunt, somewhat umbilicated: capsule turbinate, 5-celled, lobed at the apex: seed solitary in each cell, hilum truncate without an arillus—flowers purple.

Obs.—The specimens figured are not those described, hence some discrepancy between the figure and description, but not enough I think, to constitute them distinct species, unless the fruit prove them so.

Hab.—*Shevagherry hills*.

1. Flowering branch, *natural size*—2. An expanded flower seen from above—3. The same, the petals removed—4. A stamen—5. Ovary cut transversely—6. Cut vertically, all magnified.

215. *Eucnymus Goughii*, (R. W.) Shrubby, glabrous, ramuli compressed: leaves somewhat triple-nerved, shortly petioled, quite entire, oblong-ovate, acute at both ends; acuminate: peduncles axillary, short, 1-3 flowered, calyx seutellate, 5-lobed: petals 5, orbicular, fimbriated on the margin, stamens 5, inserted on the disk, connectivum of the anthers broad, cells placed transversely, dehiscing lengthwise, ovary immersed in the disk, 5-celled, with 2 ovules in each.

Hab.—*Neilgherries*—G. Gough, Esq.

1. Flowering branch, *natural size*—2. Expanded flower—3. The same, petals removed—4. A stamen—5. Ovary cut vertically—6. Cut transversely.

216. *Jambosa aquea*, (D.C.) Leaves almost sessile, oblong, lanceolate narrower, and somewhat cordate at the base: peduncles terminal, or from the upper axils 3-7 flowered, (flowers white) fruit turbinate, flattened at both ends.

1. Flowering branch, *natural size*—2. A dissected flower.

217. *Rotala fimbriata*, (R. W.) Petals fimbriately divided on the margin.

Hab.—*Mysore in paddy fields or on the borders of tanks*.

Obs.—The genera *Anmannia* Nesra and *Rotala* appear to be very imperfectly separated by their present characters. I propose amending them thus—All the species of *Anmannia* with an uneven number (3-5) of parts of the flower, and a 3-celled ovary *An. pentandra* to be referred to *Rotala*—All those having an even number (4) with the petals and stamens equal, and the ovary 2-celled, to *Anmannia*—those with 4 petals and stamens and a 4-celled ovary (*An. rotundifolia*) to *Mirkooa*, and lastly, those having twice as many stamens as petals and a 4-celled ovary, (*An. octandra*) to *Nesaea*—*Mirkooa* is one of our sub-genera of *Anmannia*, which I propose to elevate to the rank of a genus.

Petals and stamens 3-5, ovary 3-celled, flowers axillary, solitary.—

Rotula.

————— 4, ovary 2-celled, flowers axillary. *Anmannia*.

————— 4, ovary 4-celled, flowers spiked. *Mirkooa*.

Stamens twice as many as the petals, ovary 4-celled, peduncles axillary, 1-3 flowered. *Nesaea*.

218. *Quercus ferox*, Roxb. Leaves ovate-lanceolate, and oblong-acute, entire, glossy. Male spikes pointed; Flovers with a six-cleft calyx, and twelve stamens. Cup an entire evalvar capule, armed with many compound thorns, hiding completely the sub-ovate acorn. Roxb.

1. Male flowering branch—2. Male flower—3. Female spike—4. Capsule opened, showing the enclosed nut.

219. *Quercus fenestrata*, Roxb. Leaves petioled, lanceolar, entire, finely acuminate, firm and polished. Spikes panicle, terminal. Flowers tern; male dodecaandrous. Nut hemispherical, all but the obtuse apex hid in the oblatly spherical, muciated cup. Roxb.

1. Female flowering branch—2. Ovary exposed by the removal of part of the calyx—3. Ovary cut vertically, two pendulous ovules in each cell—4. Cut transversely—5. A full grown acorn, the nut enclosed in the cup—6. The same cut vertically—7. The nut removed from the cup—8. Cut vertically, showing the superior embryo.

220. *Quercus lappacea*, Roxb. Leaves lanceolar, entire, much acuminate, downy underneath. Spikes axillary, solitary. Nut ovate, villous, slightly embraced by the inoffensive, echinate, saucer-shaped cup. Roxb.

1. Male flowering branch—2. Male flower—3. Ovary—4. Female branch—5. Acorn cut vertically.

221. *Quercus turbinata*, Roxb. Leaves lanceolar, entire, obtusely acuminate, hard, glossy. Spikes terminal, generally paired; the lower part occupied by clusters of female flowers, and the upper part crowded with male ones. Nuts turbinate, smooth; cup small, rugose. Roxb.

1. Flowering branch—female flowers below, male above—2. Male flower—3. Female hermaphrodite divided vertically—4. Ovary cut transversely—5. Acorn.

6-7-8-9. Belong to *Quercus acuminata*, Roxb. introduced through a mistake of the copyist—and printed before the blunder was discovered.

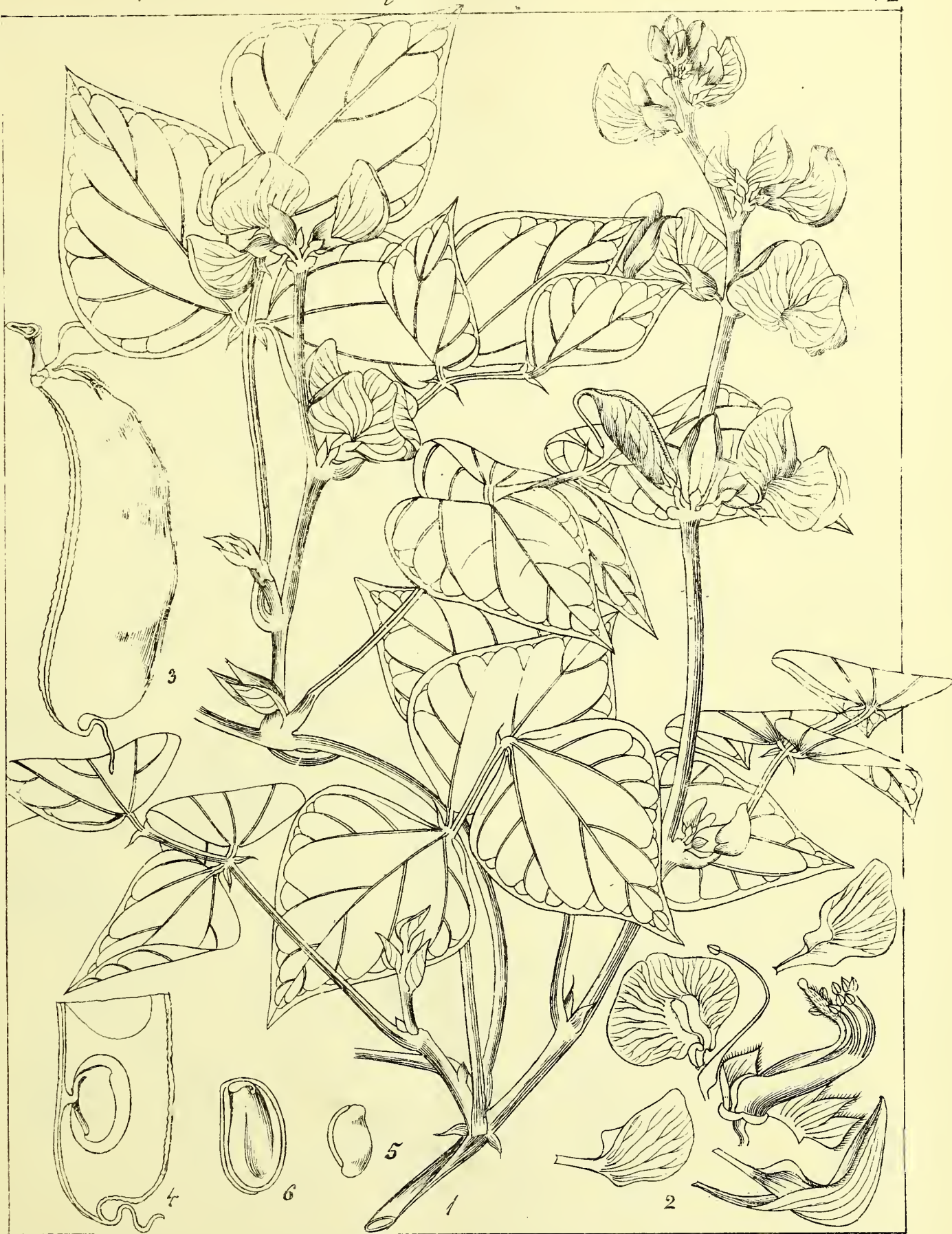




*Phaseolus pulniensis* (R. W.)







Rungiah. del

புலகாக்கோட்டி }  
var. kotte } fenz

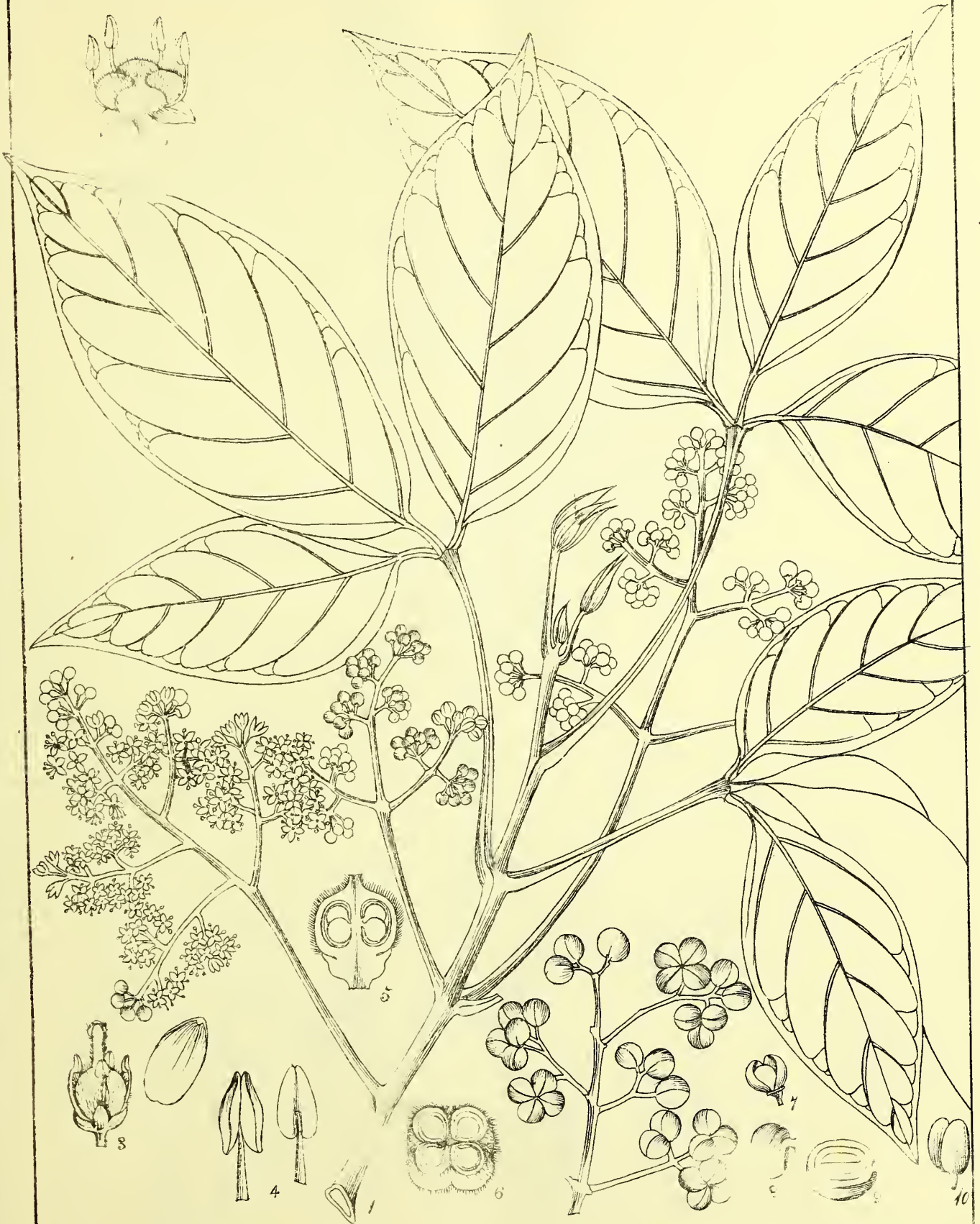
*Lablab vulgaris. (Sav.)*

R. W. Pitt

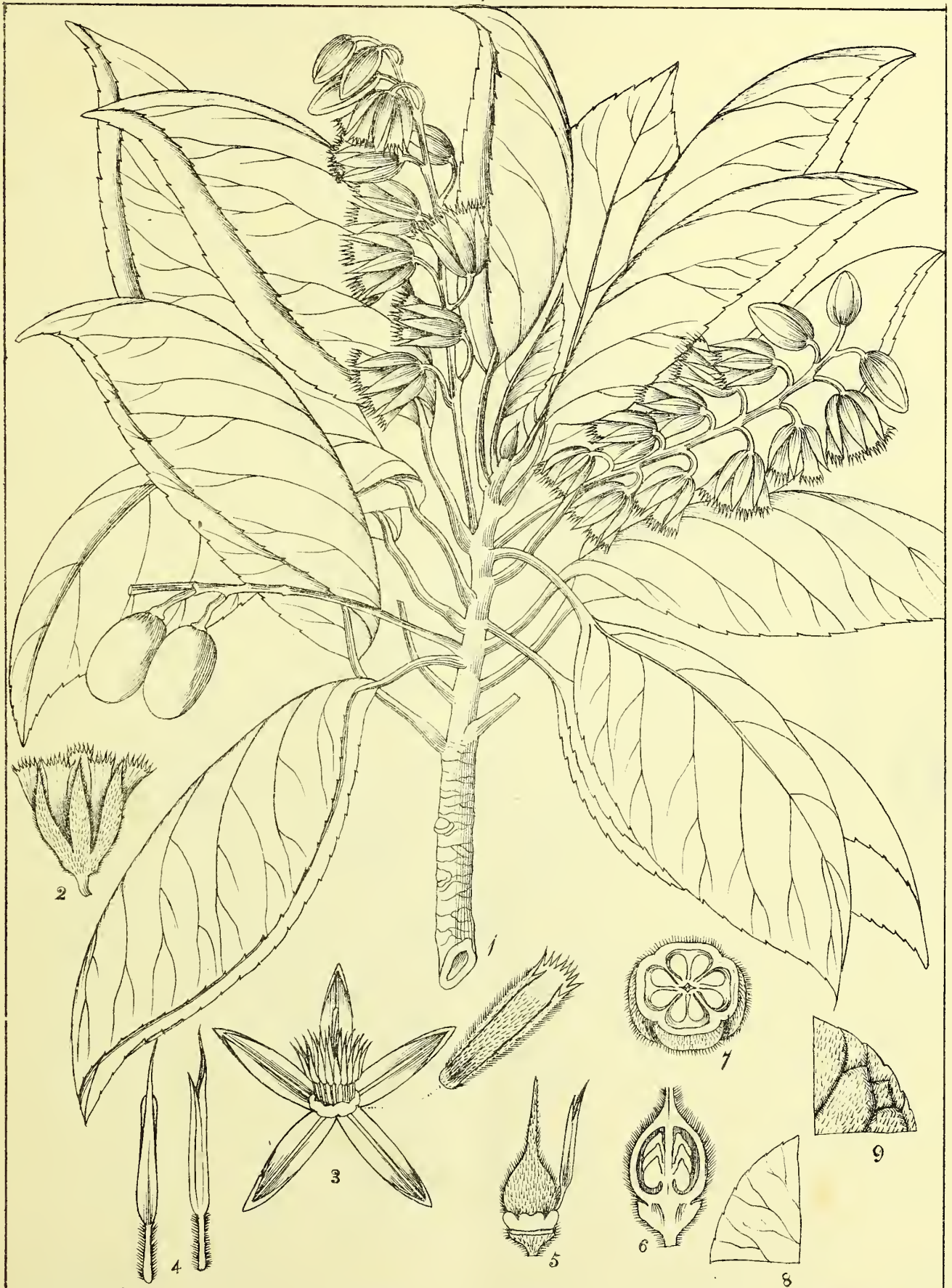
சீகேடேதேகா }  
*Chikedeethaga* } fenz











*Rungiah, del.*

*Monocera ferruginea* (R.W.)

*Dumphy, lith.*







*Sonesia Asoca* (Roxb.:)

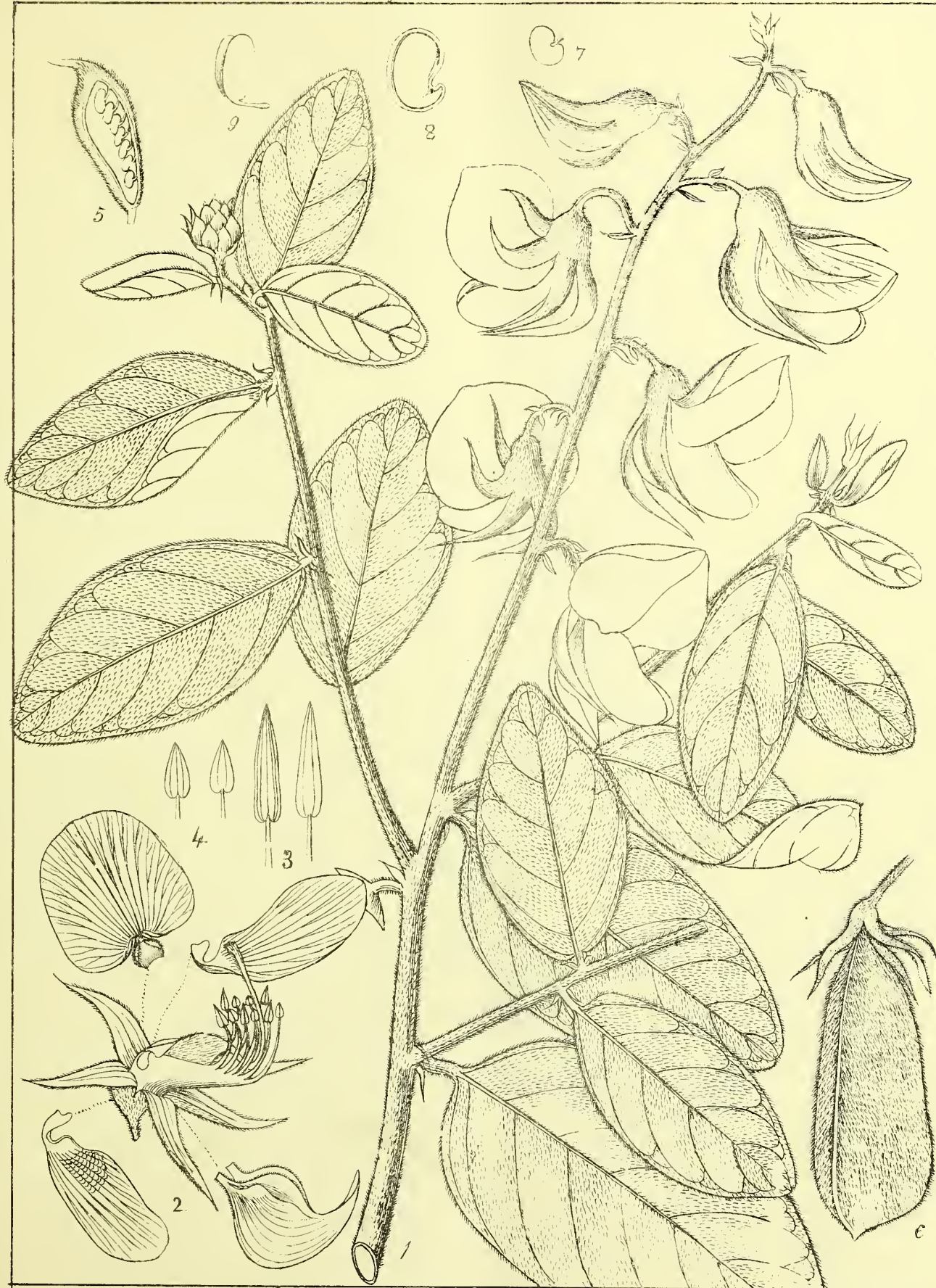




*Milletia rubiginosa.* (W. & A.)





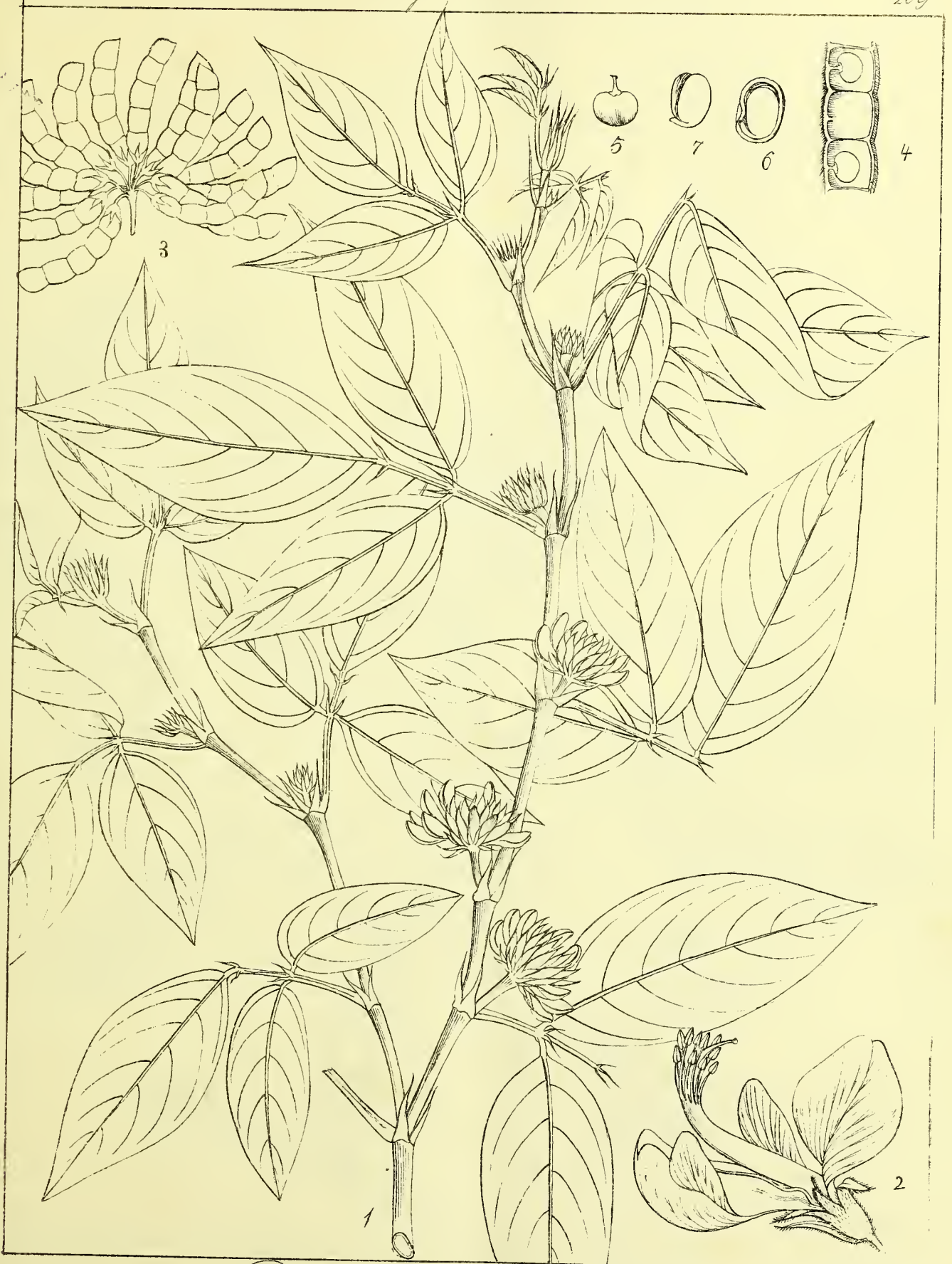


*Crotalaria oblecta* (Graham)

Dunphy, Litch.







*Desmodium congestum* (Walb.)

*Diaphy Luth*



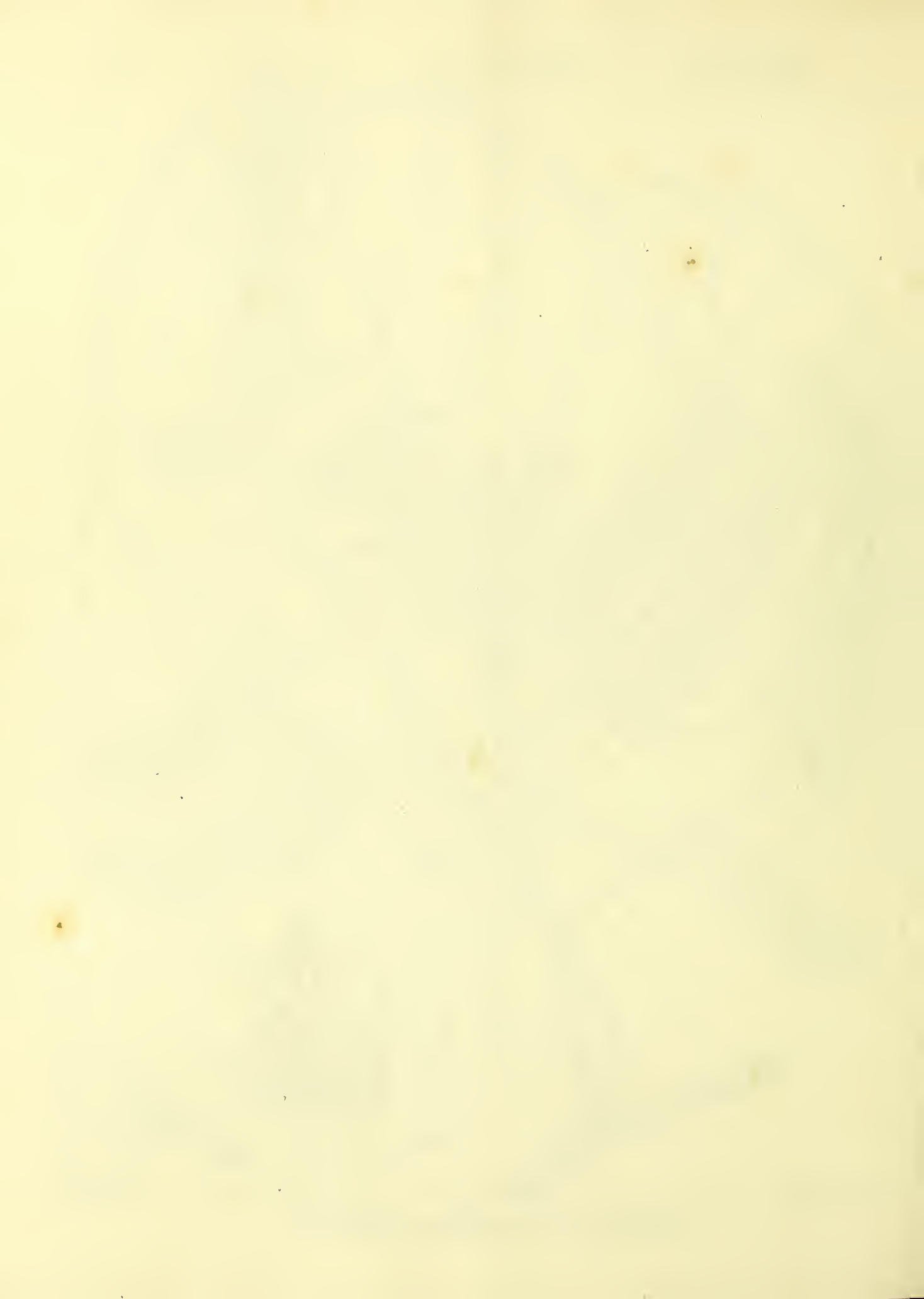




*Rungiah. del.*

*R. W. Smith.*

*Butea parviflora. (Roxb.)*







*Quercus semiserrata* (R.)







*Quercus lanceifolia* (Roxb.)





*Roxburghiana.*

*Cupulifera.*

213



*Quercus squamata (Roxb.)*







R. W. det.

Pomero Lith.

*Euonymus crenulatus* (Walt.)



*Eucorymbus Goughii*

F. H. A. C.







Pungiah. del.

P. W. Little.

*Jambosa aquea* (Dc.)





*Lysithea.*

*Salicaria.*

917  
932X33



*Rungiah. del.*

*P. W. Lith.*

*Potamogeton fimbriata (R. W.)*



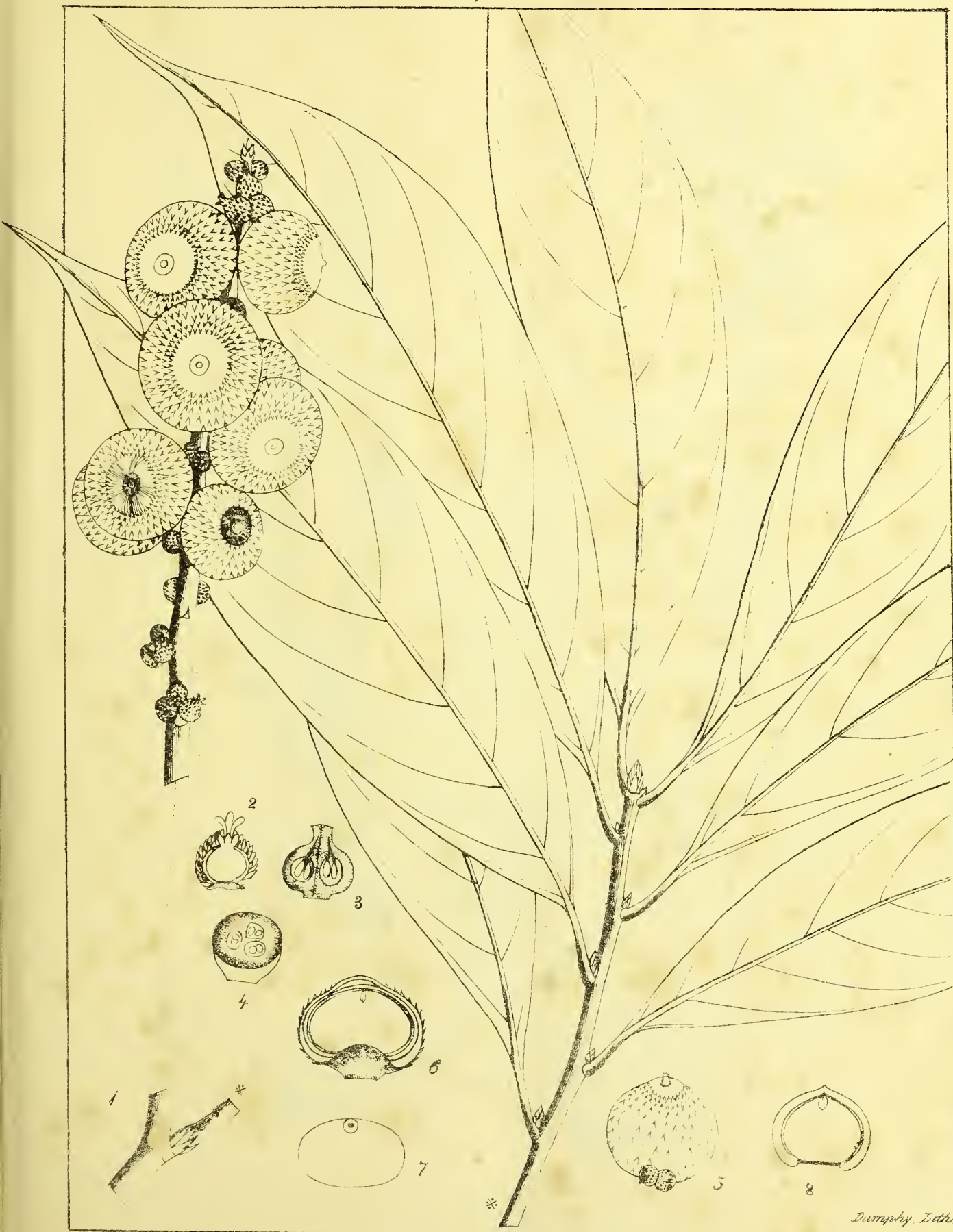




*Quercus ferox* (Roxb.)







*Quercus fenestrata* (Roxb.)







Dunphy, Lith.

*Quercus lappacea* (Roxb.)





*Quercus turbinata* (Roxb.)  
2 *Quercus acuminata* (Roxb.)





EXPLANATION OF PLATES.

222. *Elatine* (Bergia) *ætiwosa*, W. and A. Glabrous: stems much branched: leaves opposite, obovate, or oblong, attenuated towards the base; those on the flower-bearing branches almost linear, flowers pedicellate, axillary, opposite, solitary: sepals and petals 5: stamens 10; styles short.

1. A flowering branch—*natural size*—2. A dissected flower, showing the hypogynous insertion of the stamens, the 5 clavate styles and a detached petal—3. Stamens—4. The ovary entire—5. Ovary cut vertically, showing the central placenta—6. Cut transversely, 5-celled—7. A portion of the stalk, showing that the flowers are occasionally paired—8. A capsule cut transversely—all more or less magnified.

223. *Ochna Wightiana*, Wall. Leaves ovate, bluntish, rounded at the base, conspicuously veined, slightly serrulated, pedicels solitary, or in pairs, from the apex of a very short leafless shoot: sepals oval, obtuse, petals (deciduous) and ovaries 5, stigma 5-cleft.

1. Flowering branch—*natural size*—2. A flower partially dissected—3. Stamens—4. Ovary, style and stigma—5. The fruit nearly full grown—6. A carpel—7. The same, showing the immature seed—all more or less magnified.

224. *Agrimonia Eupatorium*, Lin. (*A. ceylanica*, Moon). Stem, leaves pinnate, leaflets elliptic-oblong, terminal one stalked; calyx encompassed with bristles: spikes elongated.

1. Plant—*natural size*—2. An expanded flower—3. The trifid bract—4. A flower split open, to show the position of the ovary and insertions of the stamens—5. Anthers—6. An ovary cut vertically, seed pendulous—7. Cut transversely—8. Portions of a leaf magnified to show the hairs.

Dr. Arnott has decided, by comparing specimens, that this plant is identical with the European one, but judging from characters only I think there is reason to doubt that.

225. *Rubus rugosus*, Lin. Shrubby, armed with scattered straight or recurved prickles, branches, calyx and under side of the leaves villous, with hairy tomentum: leaves simple, cordate, 3-5 lobed, reticulated and pitted underneath, scabrous and punctulate above, stipules and bractes villous, racemes few flowered, axillary and terminal, segments of the calyx oblong, lanceolate, equal to the corolla.

1. Flowering branch—*natural size*—2. A dissected flower, showing the ovaries detached from the sepals, petals and stamens—3. A petal—4. An ovary and style—5. The same cut vertically, ovule pendulous—6. Ovary cut transversely—7. Stamens—8. Portions of a leaf magnified, to show the hairiness and reticulations.

226. *Eriobotrya japonica*, Lin. Leaves lanceolate, somewhat concave at the base, slightly wrinkled, serrated, woolly on the under side, lobes of the calyx rounded.

1. Flowering branch—*natural size*—2. A flower dissected, showing the petals and stamens, the lobes of the calyx removed—3. The ovary—the sepals partly removed to bring it into view.

227. *Combretum Wightianum*. Climbing, glabrous: leaves opposite, elliptic-obovate, usually with a short sudden acumination, coriaceous, shining above: spikes axillary, on longish peduncles, elongated, lax, rachis and calyx pubescent: bractioles obsolete, or resembling minute tubercles: tube of the calyx two or three times longer than the ovary, limb cleft to near the middle, with a hairy ring below the insertions of the stamens; segments triangular, ovate, acute, recurved, petals elliptic, oblong, emarginate.

1. Flowering branch—*natural size*—2. An expanded flower—3. The same split open, showing the insertions of the petals and stamens, the style and stigma—4. Stamens—5. An ovary cut vertically, two ovuled—6. Cut transversely—7. Fruit—*natural size*—8. Cut transversely—*natural size*—9. Cut vertically, seed pendulous from a slender podosperm—10. Seed removed—11. A seed, the testa removed, showing the cotyledons unfolded and superior radicle—with the exceptions mentioned, all more or less magnified.

228. *Pholonia Lindleyana*, W. and A. Leaves elliptical or oblong, lanceolate, acute, serrulate, or sometimes almost quite entire: panicles small, compound: ramifications glabrous: pedicels equal to the calyx: cells of the ovary spuriously bilocular: Fruit glabrous, often one-seeded from abortion.

1. Flowering branch—*natural size*—2. A dissected flower—3. The same cut vertically, showing the insertion of the stamens, the two styles, and the 2-celled half adhering ovary, with ascending ovules—4. Stamens—5. Ovary cut transversely, 2-celled, with two ovules in each—6. A fruit full grown—*natural size*—7. The same, magnified—8. Cut transversely, 2-celled, with one seed in each—9. A seed—10. Cut transversely—11. Cut vertically, showing the cotyledons about half grown—12. Cotyledons and radicle removed.

229. *Alchemella vulgaris*, Lin. (*Al. ceylanica*, Moon). Leaves reniform, plaitedly concave, 9-lobed, serrated. Flowers dichotomously corymbose—varies much in size and pubescence.

I have now specimens of this plant from Ceylon, Neilgherries, and the Pulney mountains.

1. Plant—*natural size*—2. A portion of the rachis with a bractea, and a solitary axillary flower—not however the usual arrangement—3. An expanded flower, showing the insertion of stamens on the throat of the calyx tube—4. The flower split open, showing the ovary with its lateral style—5. Stamens—6. The ovary cut vertically, ovule ascending from the base of the style—7-8. Portions of leaves magnified to show the hairs—all more or less magnified.

230. *Rubus gouerecephul*, Roxb. Stems somewhat terete, and like the petioles and peduncles armed with recurved prickles and densely hispid, with brown horizontal hairs, leaves pinnately 3 foliolate, leaflets from elliptical to nearly orbicular, toothed-serrated, upper side glabrous, under white and tomentose, with recurved prickles on the midrib and some of the nerves: stipules subulate, panicles small, axillary and terminal, corymbose, segments oblong, white, and shortly tomentose on both sides, petals cuneate, obovate, longer than the calyx.

1. Flowering branch—*natural size*—2. A flower cut vertically—3. A similar section of a fruit nearly ripe—4. Stamens—5. A detached ovary—6. Cut vertically—7. A detached achenium—8. The same cut vertically, showing the seed and position of the embryo—9. Cut transversely—10. The embryo removed.

231. *Rubus Wallichianus*, W. and A. Stems somewhat terete, and the petioles and peduncles armed with recurved prickles and densely hispid with brown horizontal hairs: leaves pinnately trifoliate; leaflets nearly orbicular, toothed-serrated, green on both sides, glabrous above, slightly villous beneath; midrib and some of the larger nerves prickly beneath: stipules subulate: panicles large, compound, somewhat corymbose, axillary and terminal: segments of the calyx oblong-lanceolate, tomentose, hispid at the base: petals oblong, the length of the calyx.

1. Flowering branch—*natural size*—2. A dissected flower.

232. *Rubus lasiocarpus*, Sm. Stems terete, long, rooting at the extremities, glabrous, glaucous, armed with curved prickles: branches and petioles tomentose and prickly: leaves pinnate; leaflets 3-7, somewhat plicate, from ovate or obovate and acuminate to lanceolate, terminal one roundish and often 3-lobed, glabrous above, white and tomentose beneath, irregularly toothed and serrated: stipules subulate: panicles racemose, chiefly terminal: segments of the calyx oblong, attenuated at the apex, tomentose: petals roundish, shorter than the calyx: carpels tomentose.

1. Branch in fruit—*natural size*.

233. *Potentilla Mooniana*, R. W. Stems creeping and with the under surface of the leaves clothed with silky pubescence, leaves interruptedly pinnate, larger leaflets, from oval to obovate, obtuse, acutely serrated, smaller ones sub-orbicular, nearly glabrous above: flowers racemose: bractes entire or dentate: accessory sepals larger, dentate: petals obovate, yellow.

*Nevera Ellia Ceylon*, on the banks of a stream creeping among grass. The petals were lost before the drawing was made, but not conceiving them necessary for the identification of the species I have figured it, notwithstanding this defect. The plant figured is nearly two feet long.

1. Plant—*natural size*—2. A flower expanded but without petals—3. Stamens—4. A fruit cut vertically—5. The entire fruit—6. A detached carpel—7. The same cut vertically, with its enclosed seed—8-9. Portions of leaves intended to represent the upper and under surfaces but badly executed, the one with too much the other with too little pubescence—all more or less magnified.

234. *Rosa involucrea*? Roxb. Subscandent, armed with strong stipulary straight prickles, flowers in subsessile fascicles, bractes in form of a 4 or 5-leaved inferior calyx.

My specimen differs from Roxburgh's description in having the leaflets glabrous beneath, except the midrib which is somewhat hairy.

I am indebted to Lieut. Munro for my specimen which he found wild in Mysore.

1. Flowering branch—*natural size*—2. A cluster of flower-buds—3. A detached bractea—4. Stamens—5. A carpel, with style and stigma—6. The same cut vertically, showing the pendulous ovule.

235. *Senecarpus Grahamii*, R. W. Leaves cuneato-lanceolate, acute, coriaceous, glabrous above, pubescent beneath, petiole short, furnished with 4 subulate bodies (as in *Holigarna longijolia*): panicles racemose, contracted, congested towards the summits of the branches: calyx truncated, cup-shaped, adnate, with the lower half of the young fruit: styles 3, lateral, near the apex, reflexed, stigmas capitate; ovary and young fruit covered with rusty colored hairs; ovule solitary, pendulous from the base of the styles.

I dedicate this species to the memory of the late John Graham, Esq. of Bombay, from whom I received the specimen. See Illustrations of Indian Botany, vol. I. page 180.

1. A branch covered with young fruit—2. A young fruit—3. The same cut vertically, showing the position of the ovary—both magnified—4. A leaf—*natural size*.



GEN. CHAR. Flowers bisexual, calyx small, 5-lobed, persistent. Petals 5, roundish, stamens inserted beneath the margin of the disk, alternately shorter, disk annular, fleshy, embracing the ovary and style, stigma simple, berry globose, 1-seeded—Leaves unequally pinnate.

The simple leaves of my plant seem to indicate that it is erroneously referred to this genus, but I have introduced it on account of the peculiar fruit, erect seed, being unusual in this order.

236. *P. ? Colebrookiana*, R. W. Arhoreous, leaves coriaceous, alternate, simple, oblong or obovate, quite entire, acute, or ending in a short abrupt acumen, parallelly veined, glabrous, racemes axillary, or from the scars of fallen leaves, much shorter than the leaves, many-flowered. Fruit superior, globose, pointed with the persistent fleshy style and capitate stigma; pericarp containing between its laminae numerous small cells, the base bound by a ring. Seed one, erect, cotyledons thick, fleshy, radicle inferior.

HAB.—*Sheogerry Hills*.

1. Branch with mature fruit—2. A fruit cut transversely, showing the thick fleshy cotyledons—3. Cut vertically, seed erect, radicle at the base—4. A seed, the lobes separated to show the radicle and plumule—5. A single lobe, with the radicle at the base—all more or less magnified.

237. *Buchanania lanceolata*, R. W. Leaves lanceolate, acute, or acuminate, quite entire, glabrous, congested towards the summits of the young shoots: panicles pubescent, erect, terminal and axillary from the summits of the branches, contracted: flowers small, numerous, capitate on the ends of the short lateral divisions of the panicle.

Malabar near Quilon.

I have not seen the fruit. The leaves are so like those of *Mangifera indica* that the same terms serve to characterize both.

1. Flowering branch—natural size—2. A flower—3. The same, petals removed—4. Stamens—5. Ovary surrounded by the erenately 10-lobed disk—6. Ovary cut vertically, the ovule represented erect, but perhaps erroneously—7. A diagram of the petals.

238. *Rhizophora mucronata*, Lin. (*R. candelaria*, W. and A. Prod.) Leaves oval, long-cuspidate, segments of the calyx triangularly ovate.

1. A flowering branch—natural size—2. An expanded flower seen from above, sepals and petals 4, stamens 8—3. A flower after blooming the 8 thick reflexed bodies, the bodies of the anthers after shedding their pollen, the thinner ones at the base, the withered valve which closed the polleniferous cells—4. Anthers before and after dehiscence, showing the very peculiar formation of the anther—5. A fruit after germination has considerably advanced—all, except the last, more or less magnified.

239. (A) *Bruguiera Rhoeidi*, Blume? (*B. gynorrhiza*, W. and A. Prod.) Leaves oval, oblong, acuminate at both ends; calyx about 12-cleft, laciniae at length erect, or incurved, petals somewhat villous at the base, otherwise glabrous, segments acute, two-bristled at the points with a fifth bristle in the fork.

1. Flowering branch—natural size—2. A flower, the calyx removed to show the petals—3. A detached petal—4. Stamens—5. The ovary—6. The same cut vertically, showing the cells at the base of the style—7. The same cut transversely—8. A fruit after germination has commenced.

(B) *Bruguiera eriopetala*, W. and A. Leaves oval, oblong, acuminate at both ends: calyx about 10-cleft, the edges of the petals from the base to the apex densely clothed with silvery hairs; segments somewhat obtuse, one-bristled at the apex, with a longer one in the fork.

1. A full grown flower—2-3. Back and front views of a petal, showing its ciliate margins, the single bristle on each division, and the longer one in the fork—all more or less magnified.

#### CERIOPS, (Arn.)

GEN. CHAR. Calyx 5-cleft. Petals 5, emarginate, before expansion, embracing two stamens. Stamens 10, erect; anthers cordato-ovate, much shorter than the filaments. Ovary half-adherent, 3-celled, with two ovules in each cell: stigma simple. Fruit somewhat ovate, crowned near the base, with the reflexed segments of the calyx. (For a fuller generic character see *Annals of Nat. History*, 1 p. 253—and *Atlas Ind. Bot.* No. 15.)

240. *C. Candoliana*, Arn. Leaves obovate or obovate, very obtuse, petals, glabrous on the margin, with 1-2 or 3 capitate bristles on the apex.

1. Flowering branch—natural size—2. At the period of expansion—3. A flower, sepals removed to show the petals—4. The same, petals removed—5. Stamens—6. Ovary cut transversely—7. Vertically—8. A fruit germinating—9. The same cut vertically to show the seed—10. Cut transversely—11. The radicle cut transversely—all more or less magnified.

241. *Scleropyrum Wallichiana*, Arn. *Sphaerocarya Wallichiana*, W. and A. *Edin. Phil. Jour.* (1832) xv. p. 180.

1. A leaf bearing branch—2. A branch in flower—3. A flower—4. The same cut vertically, showing the position of the stamens, the disk covering the tube of the calyx, the style and stigma, and the cell of the ovary, with the central column free at the base, and apparently furnished with pendulous ovules—5. The column and ovules removed from the ovareal cell—6. Stamens—7. A branch covered with fruit—8. An immature fruit cut vertically, the solitary seed pendulous—9. The same cut transversely.

I am indebted to that meritorious officer Mr. Apothecary Bertie for the drawing from which this figure is taken, and also for the flowers and fruit from which the analysis were made, and to whom I proffer my thanks for this favour.

The following generic character and description were drawn up by Dr. Arnott and published in the journal of Zoology and Botany, No. 12.

#### SCLEROPYRUM, (Santalaceae.)

"Flores abortu dioici? Masc. Perianthium ebracteolatum, 5-fidum, lacinis patentibus: tubus turbinatus, intus disco cupulato 5-lobato tectus. Petala nulla. Stamina 5, sepalis opposita, inter disci marginem perianthiumque inserta. Filamenta planiuscula, sepalis paullo breviora, apice bifida, segmento utroque anthera loculum antice fereat. Ovarium (abortivum?) disco immersum, uniloculare, (nunc fere solidum,) columella centrali carnosa cylindrica e basi loculi orta apice libera instructum. Stylus conicus crassus. Stigma 3-4-lobum, lobis erectis inaequalibus, duobus majoribus. Fem. Flores (fide Rheidei) ut in mare at tubo pyriformi. Fructus drupaceus, pyriformis, monospermus, lacinis perianthii marcescentibus et disco coarctatus. Semen sphaericum, hilo prope basin. Albumen carnosum. Embryo axillis, gracilis, semine dimidio brevior. Radicula supera.

Arbor (*Rheedeo teste*) spinosa. Ramuli teretes, glabri. Folia glabra, alterna, exstipulata, brevis petiolata, 3½-6 poll. longa, 1½-2½ lata, supra lucida, ex ovatis obtusis in ovata lanceolata, penninerviâ, nervis paucis subut prominulis secus costam decurrentibus, ad axillas nervorum epiorum, integerrima. Flores subsessiles, dense spicati, spicis in axillis foliorum (saepius delapsorum) subsessilibus, fluitibus julio 3-4-plo brevioribus, rachi dense pubescenti, bractea minute lanceolata pubescente persistente sub quoque flore. Flores masculi illis Pomaderidis haud absimiles. Filamenta apice infra fissuram dorso, perianthique lacinia ad medium, villis albis paucis instructa. Drupa basi in pedicellum brevem crassum attenuata.

1. *S. Wallichiana*, Arn.—*Sphaerocarya Wallichiana*, Wight et Arn. in *Ed. Phil. Jour.* (1832) xv. p. 180; *Wight, Cat. n. 948*.—*Idu-mulli*, Rheed. H. Mal. iv. t. 18, (fem.)—*Tiri-itti-Canni*, Rheed. H. Mal. vii. t. 30, (mas.)

HAB.—In Malabar.

In all the flowers I have examined the stigmas appeared imperfect, and although the central column of the ovary was slightly increased at the apex, I could perceive no trace whatever of ovules. I therefore consider them as unisexual, in which I am confirmed by Rheede, who says of his *Tiri-itti-Canni*, "fructus nulli;" in his *Idu-mulli*, or the fructiferous plant, no stamens are figured, but they are described; probably they are abortive. Rheede figures the female with thorns on the branches, but not the male, although he describes them. On my specimen there are none whatever, but it is the mere termination of a young branch. Rheede says of the male that it is a parasitical plant, of the female that it is a lofty tree: the former appears to me quite a misconception on his part. The figures he has given, the one of the male flower, the other of the fruit, are faithful.

It appears to me that Rheede: Hort: Mal: 7 tab. 30, quoted by my friend as a figure of the male plant has no connection with this genus or even order, but is a species of *Embelia*, which abounds on the higher eastern slopes of the mountain-range which divides the Peninsula, but in Malabar descends nearly to the plains. Its deep orange coloured flowers render it a striking object. The leaves correspond in form with the figure, and are thick, fleshy, and glabrous, or even polished above.

#### ERRATUM.

For the observations under *Ratata jimbriata* tab. 217, substitute the following.

OBS.—The genera *Rotala*, *Ameletia*, *Ammannia*, *Nesaea* and *Ninnonia*, appear to be imperfectly separated by their present characters.

I propose amending them as follows. All the species now referred to *Ammannia*, having a 5-cleft calyx, 5 petals, 5 stamens, a 3-celled ovary and 3-valved septifragal capsule I refer to *Rotala*: (*Anm. pentandra* belongs to this genus) those having a 4-cleft calyx, 4 petals, 4 stamens, a 2-celled ovary, and a capsule, opening irregularly or transversely, constitute the genus *Ammannia*: those with a 4-cleft calyx, 4 petals, 4 stamens, a 2-celled ovary, and 2-valved septifragal capsule go to the genus *Ameletia*: (*Anm. rotundifolia* and *Ninnonia floribunda* come here) and lastly those having a 4 or 6-cleft calyx, 4 or 6 petals, 8 or 12 stamens, a 3 or 4-celled ovary, and a 3 or 4-valved capsule constitute the genus *Nesaea*.—(*Ammannia octandra* comes here. For further details see Illustrations of Indian Botany under *Sclericeae*.)

The essential characters of these genera will then stand thus:

1. Calyx 3-5-cleft: petals 3-5: stamens 3-5: ovary 3-celled, capsule 3-valved, septifragal. *Rotala*.
2. Calyx 4-cleft, the sinuses furnished with accessory teeth: petals caducous, 4 or wanting, by abortion, stamens 4, ovary 2-celled, capsule thin and membranous, bursting irregularly or transversely, not septifragal. *Ammannia*.
3. Calyx 4-cleft, without accessory teeth: petals 4, marcescent, stamens 4, ovary 2-4-celled, capsule 2 or 4-valved, septifragal, (flowers in bracteated spikes, calyx conspicuously bi-bracteolated at the base.) *Ameletia*.
4. Calyx 4 or 6-cleft, with accessory teeth: petals 4 or 6: stamens 8 or 12: ovary 3 or 4-celled, capsule enclosed within the calyx, dehiscing at the apex. *Nesaea*.



*Elatine (Bergia) astivosa (W & A.)*







Cunghiah del.

C. F. L. H.

*Ochna Wightiana* (Wall.)





*Rungia asi*

Dumphy, Lith

*Agrimonia Eupatorium* (Linn)  
*A. Ceylanica* Nees







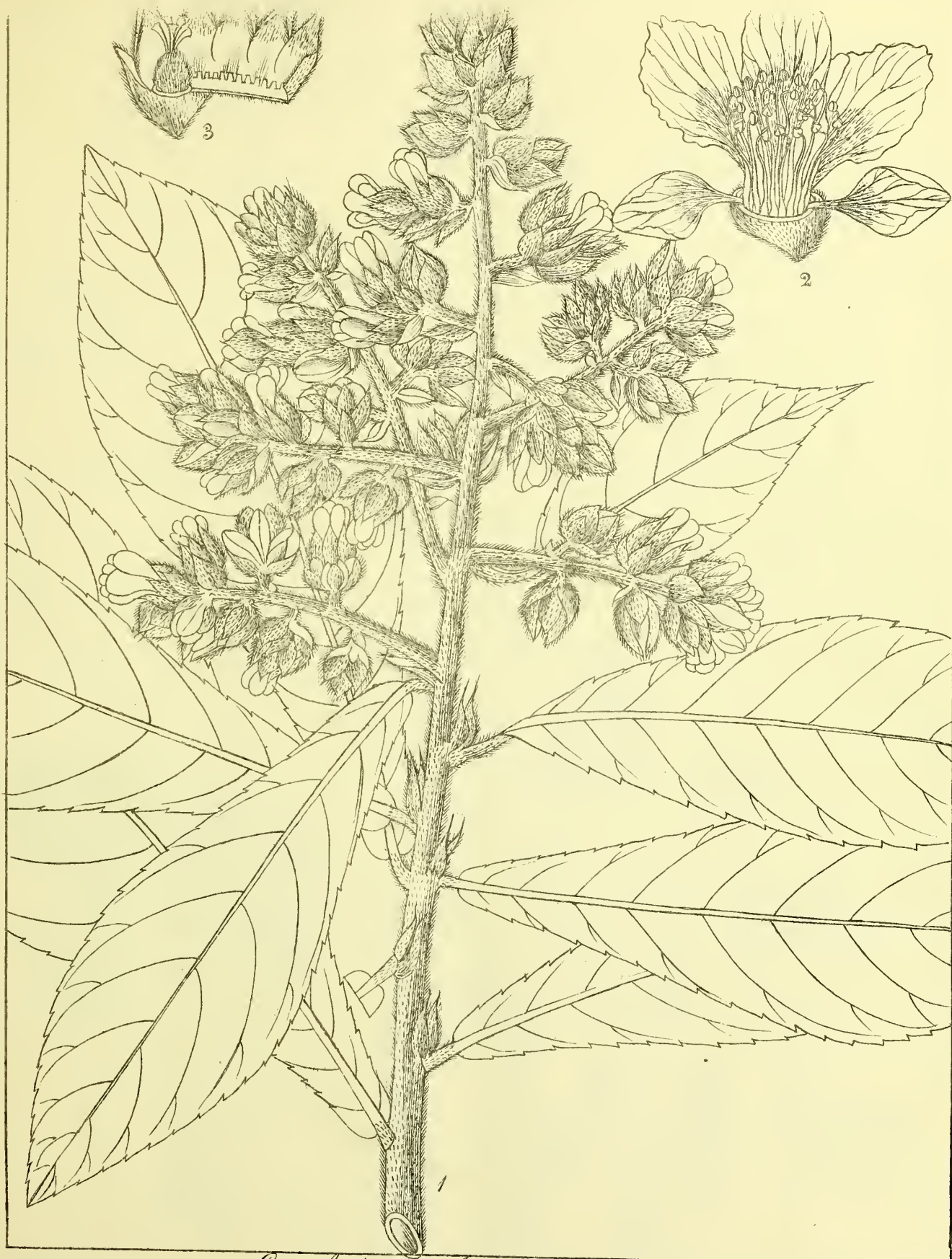
Kunziah, del.

Dumphy, lith.

*Rubus rugosus* (Sm.)





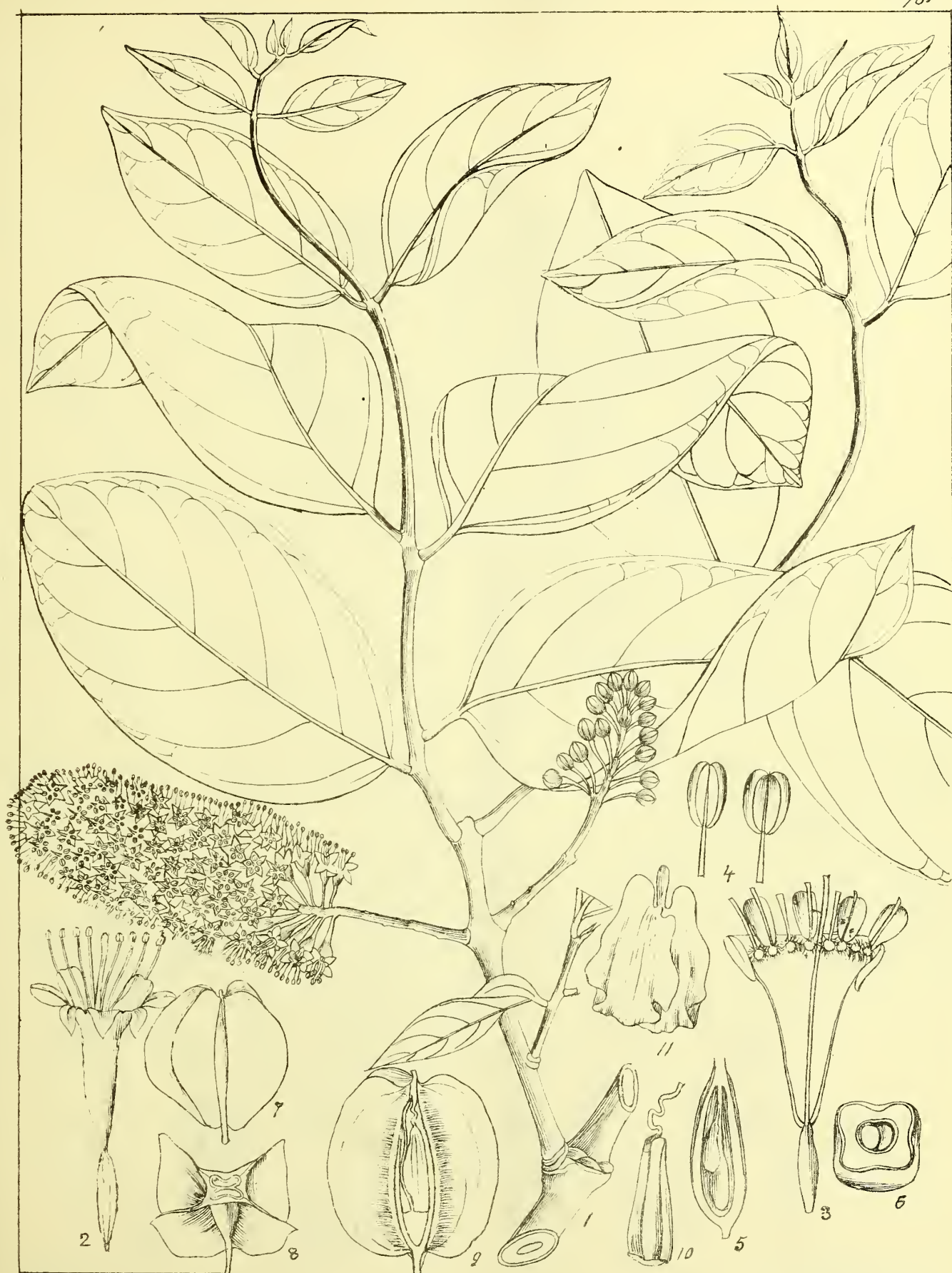


செஞ்செல்லம்  
*Eriobotrya Japonica*

*Eriobotrya Japonica* (Lindl.)







Tenigra del.

*Combretum Wightianum* (Wall.)

Dumphy, Lith.





Rungia del.

R.W. Lith.

*Photinia Lindleyana* (W & A.)







*Alchemilla vulgaris* Sinn.  
*Al. beylanica* Moon.























*Potentilla Mooniana* (R.W.)







Bungiah del

*Rosa involucrata* (Roxb.)

C. W. Lth.

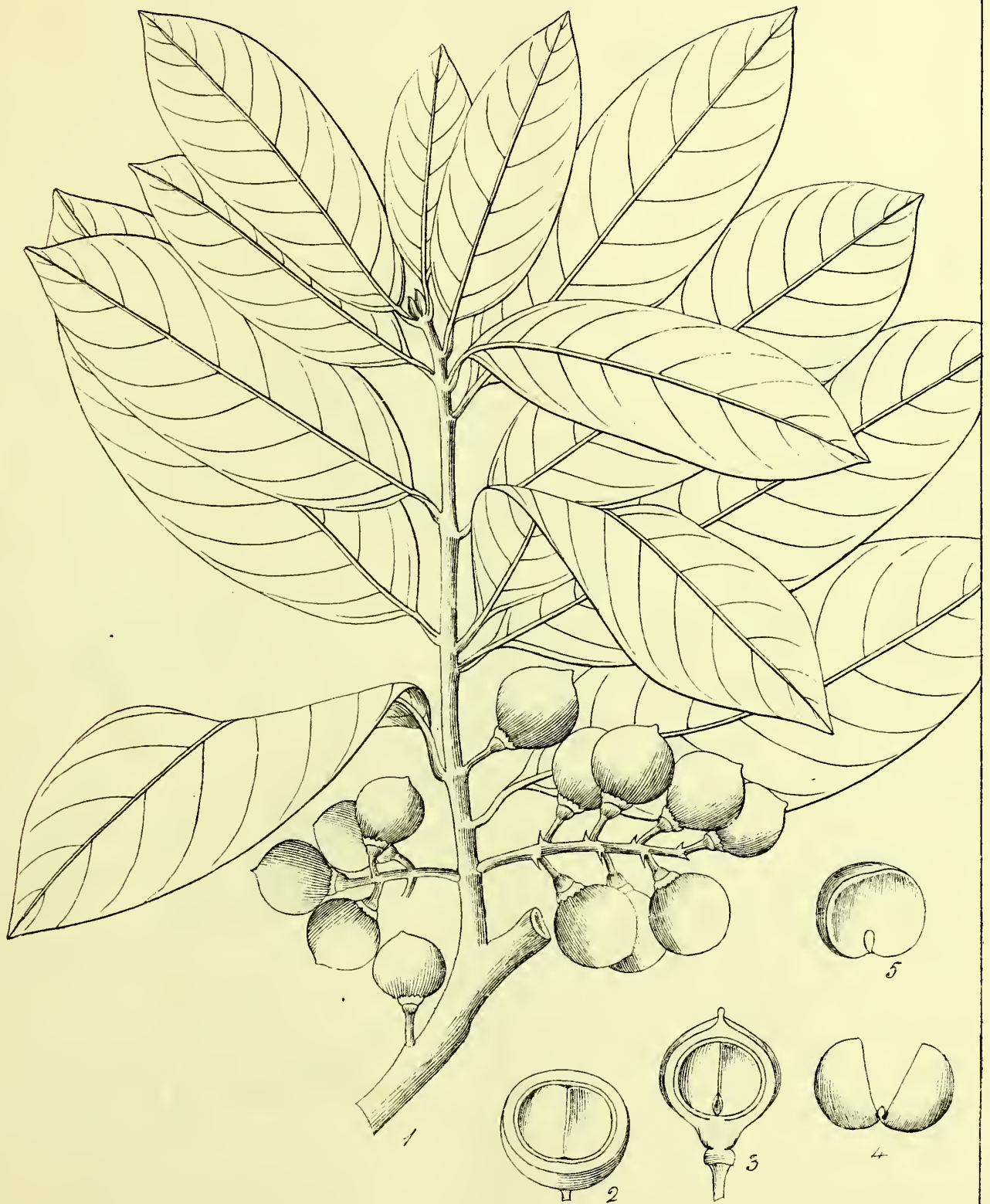






*Semecarpus grahamii* (R. H. S. Linn)





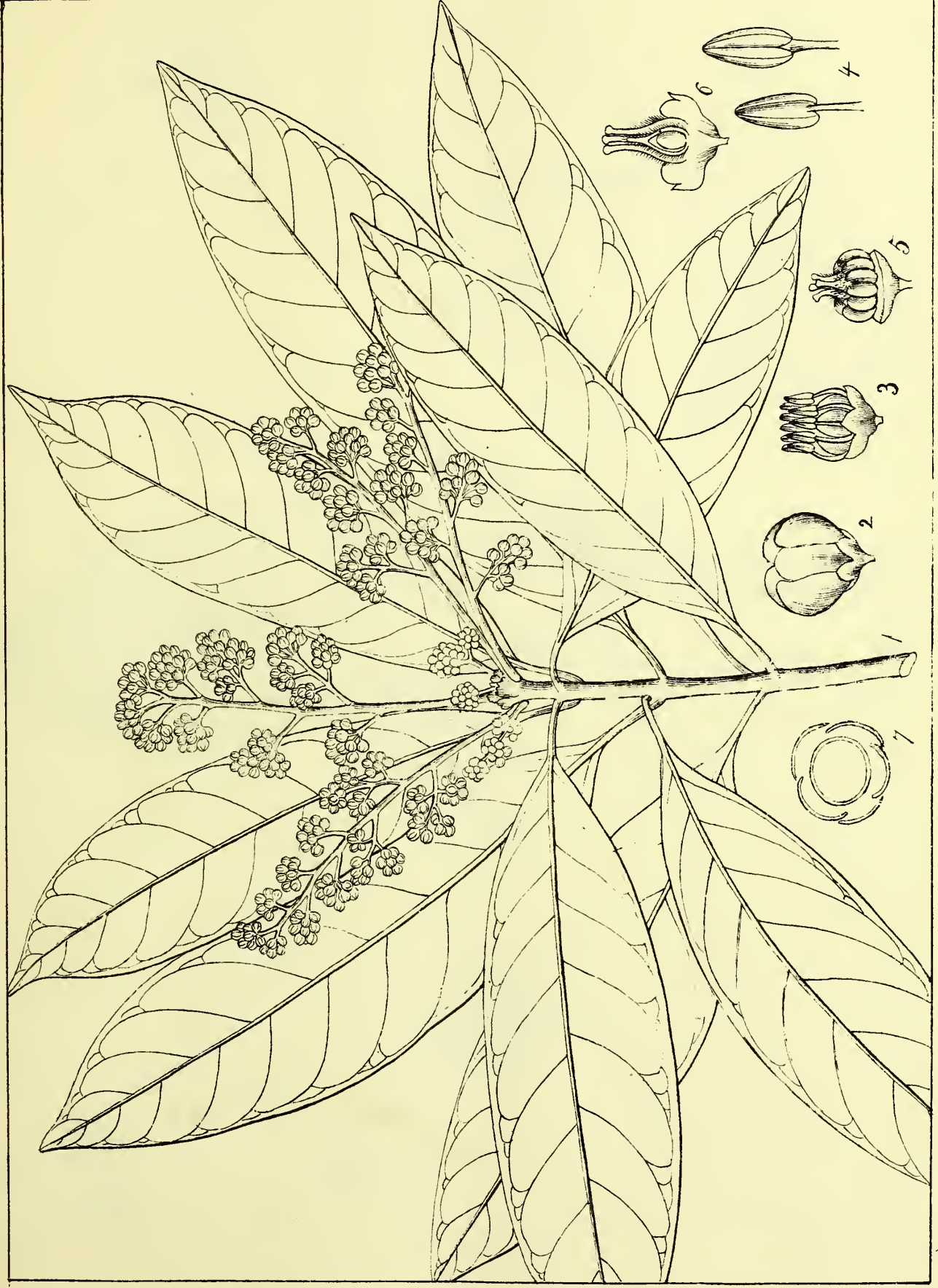
Pungnak del.

B. W. Leth.

*Pegia* ? *Colebrookiana* (R. Ti)











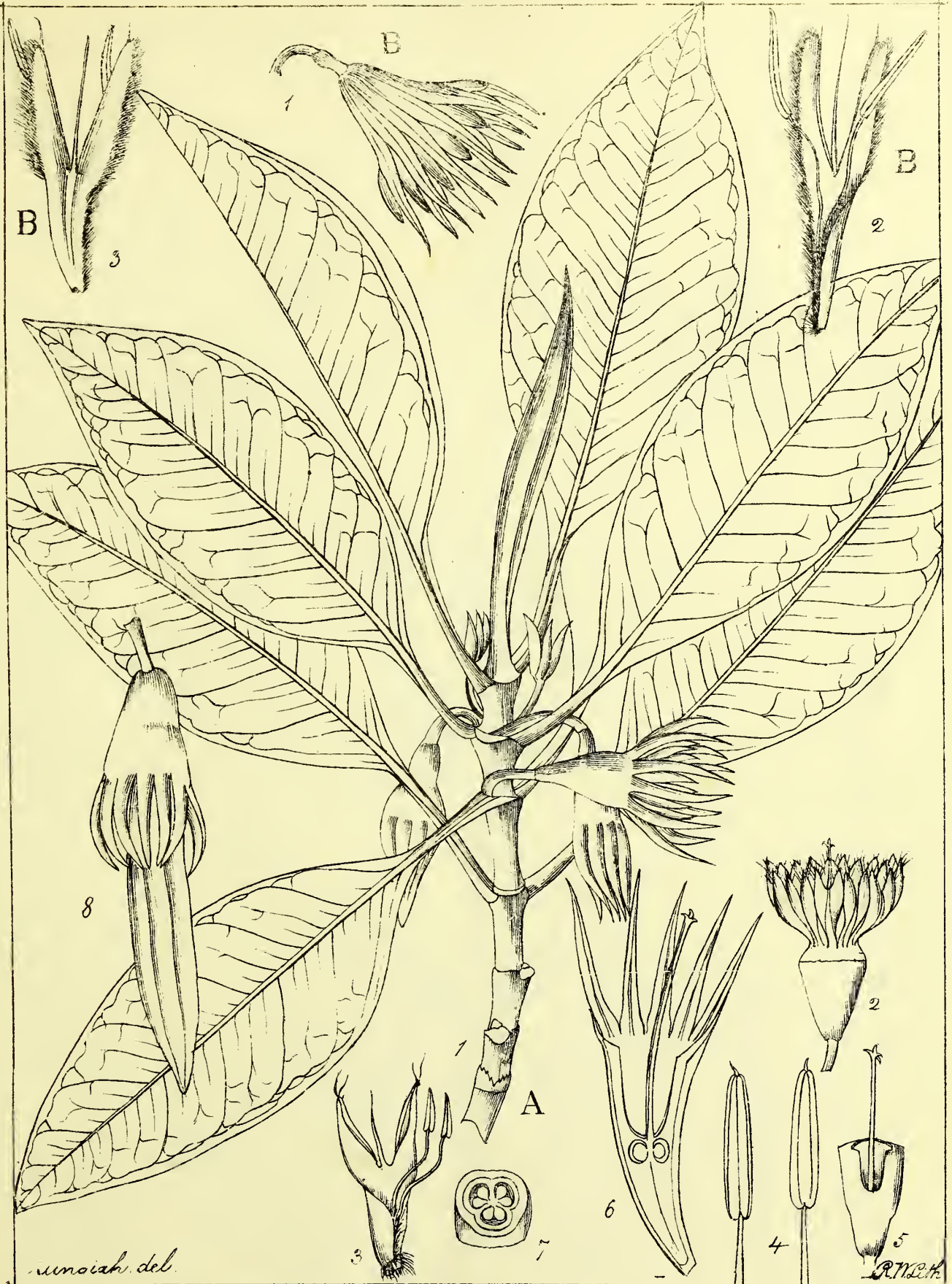
B. W. L. H.

*Rhyzophora mucronata* (Sam.)

B. W. L. H. del.

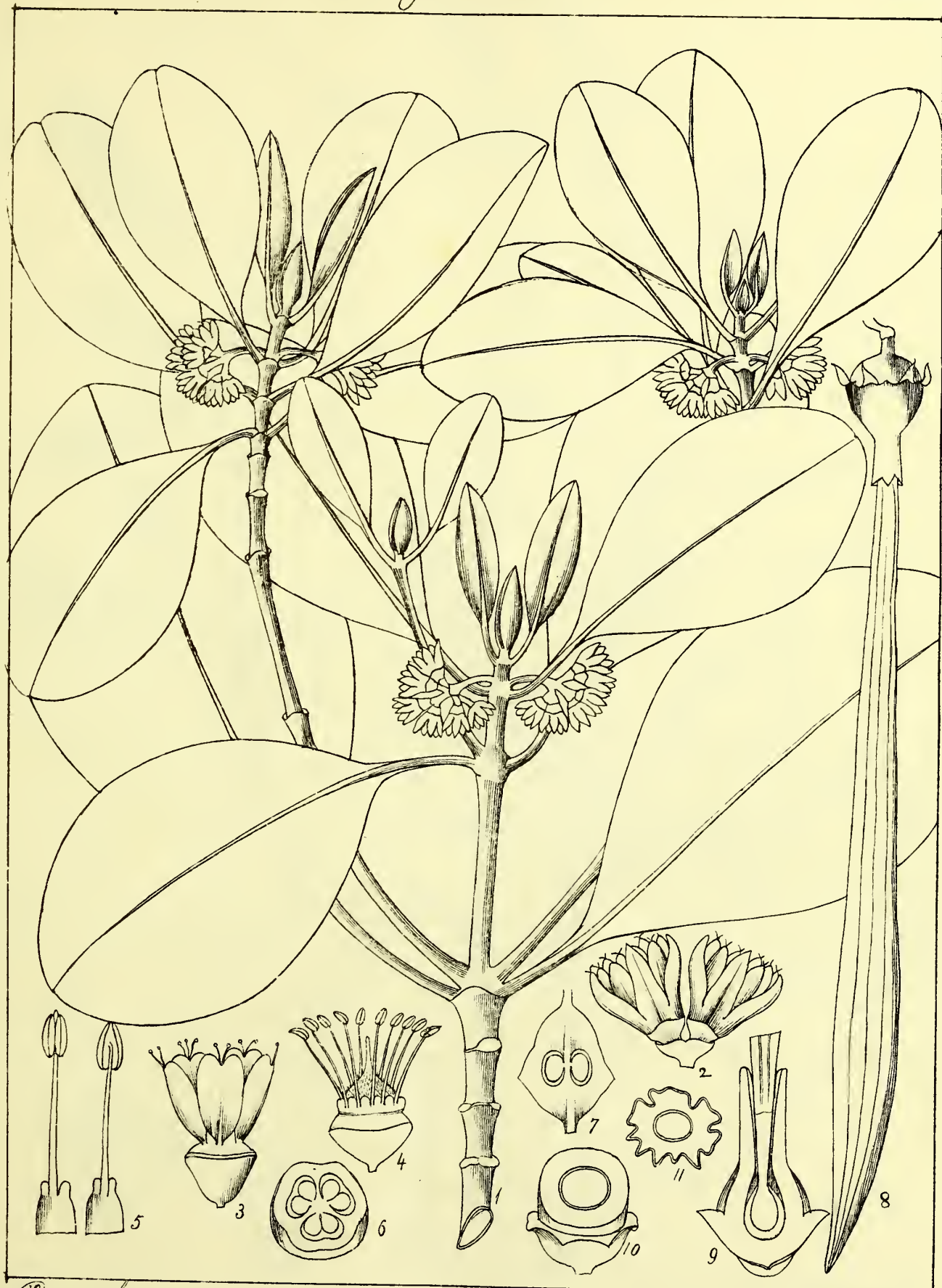






A | *Pruguiera Rheedii* (Blume) B | *B. eriopetala* W & A  
*B. gymnorhiza* W & A mon Sam





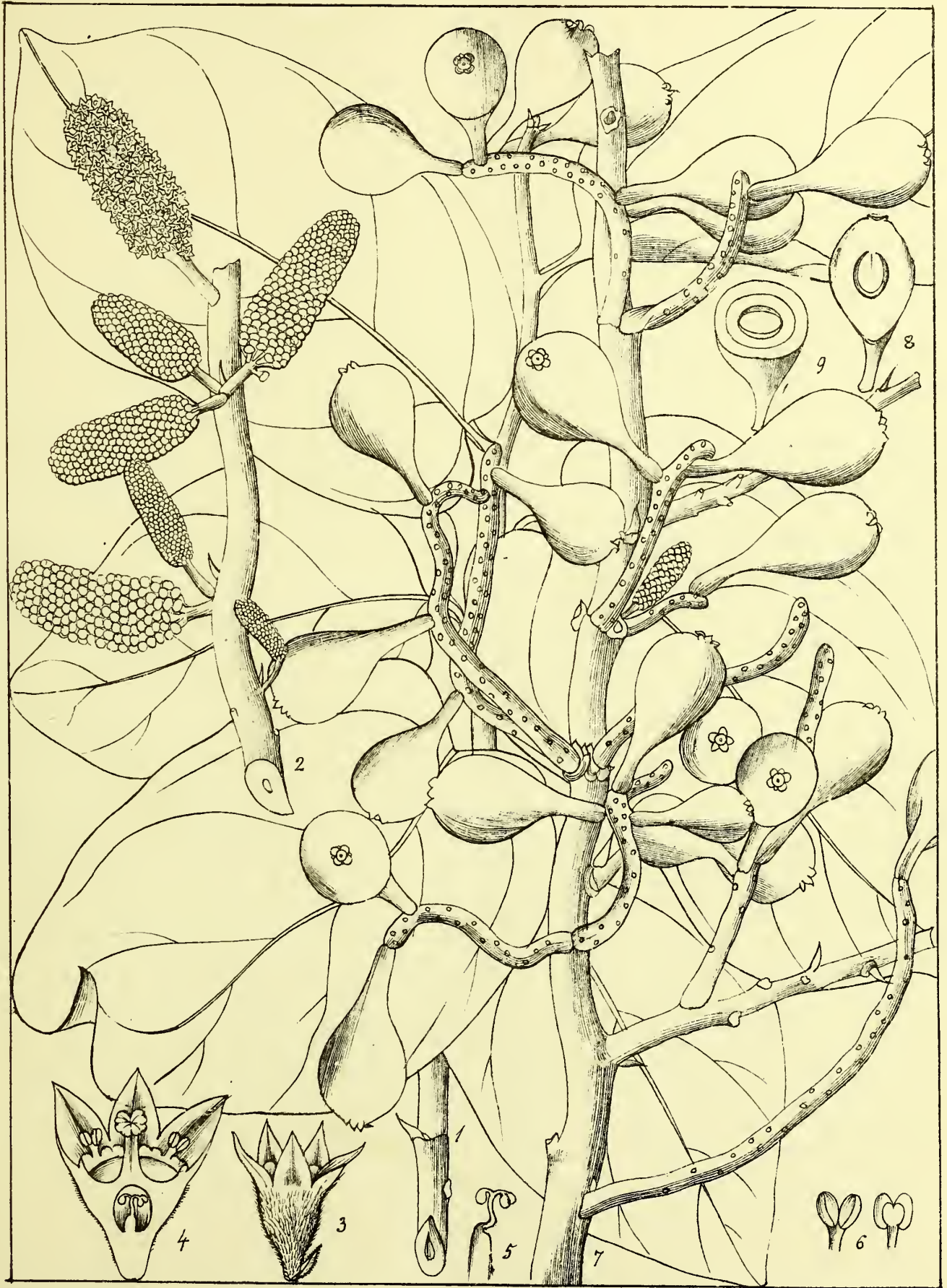
Pungiah del.

*Ceriops Candolliana* (Arn.)

C. W. Lth.





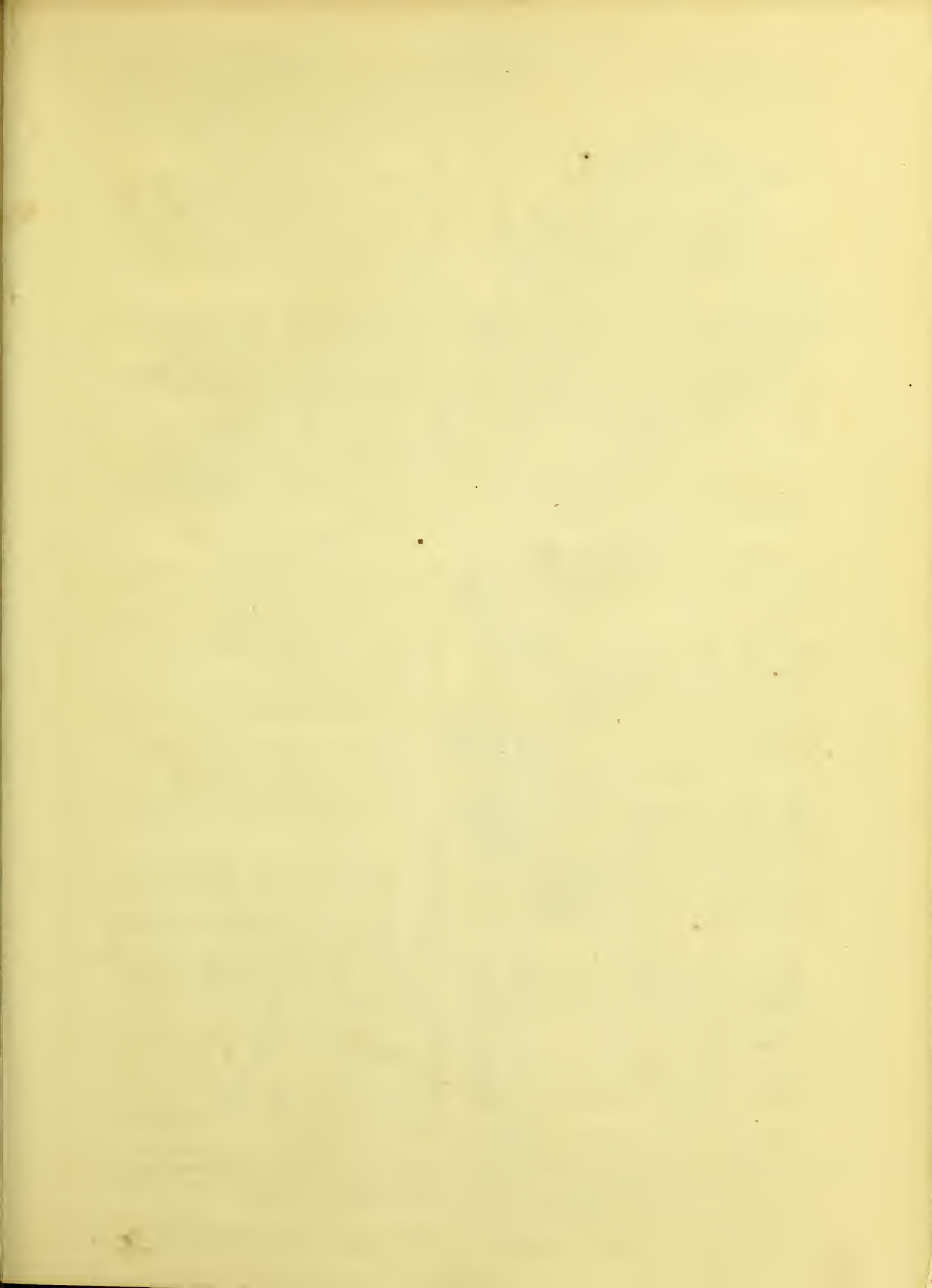


Birtus, del.

*Scleropyrum Wallichiana* (Arn.)  
*Spharocarya Wallichiana* (Tr. & A.)

Ob. Fr. Lith.  
 Bédlego hallu. Con







242. *Dalbergia tamarindifolia*, (Roxb.) Leaflets from 12 to 16 pairs, linear, oblong; racemes lateral, short, ovate, dense; filaments nine in one body; anthers 2-lobed; legumes swelled, scabrous, where the single seed is lodged. *A climbing shrub—climbs up and over large trees.*

1. Flowering branch, as copied from Roxburgh's drawing—2. A dissected flower—3. A legume.

243. *Dalbergia stipulata*, (Roxb. Mss. D. stipulacea, Fl. Ind. 3 p. 233.) Shrubby; leaflets from 8 to 12 pairs, alternate, linear, oblong; stipules and bractes oblong falcate; panicles axillary and terminal, filaments 10 in two equal bodies. *Flowers small, blue.*

1. Flowering branch, as copied from Roxburgh's drawing—2. A dissected flower—3. The bractea and bracteoles.

244. *Dalbergia robusta*, (Roxb.) This species is omitted in the Fl. Ind.—D.C. gives the following character from specimens communicated by Dr. Wallich. It differs a little from the figure. "Leaflets 7-9, oval, or obovate, obtuse, sub-mucronulate, minutely pubescent; racemes spiciform, longer than the leaves, pedicels aggregated"—Flowers small, numerous, stamens monadelphous, with a dorsal fissure fruit unknown.

1. Flowering branch, as copied from Roxburgh's drawing—2. A dissected flower—3. Ovary cut longitudinally—4. A legume.

245. *Sophora robusta*, (Roxb.) Ormosia? sp. R. W. There is no account of this plant in Roxburgh's Flora Indica, it appears however to be a species of Ormosia, the other species of which genus are from South America. Whether or not this is an Indian plant I am unable to say.

1. Flowering branch, as copied from Roxburgh's figure—2. A dissected flower—3. A legume—4. A seed cut transversely—5. Cut vertically, to show the form and position of the radicle.

246. *Pterocarpus dalbergioides*, (Roxb.) Leaves pinnate; leaflets about 9, alternate, ovate, lanceolate, smooth; panicle terminal; stamens 10 in two equal portions. *Andaman red wood—a very large tree 15 feet in circumference. Flowers pure yellow delightfully fragrant.*—Roxb.

1. Flowering branch—2. A dissected flower—3. A legume—4. The same opened to show the two seed.

247. *Erythrina oralfolia*, (Roxb.) Arboreous; armed; leaves ternate, oval; petioles armed; racemes terminal, horizontal; banner obcordate. *Two umbellate glands on the petals at the insertion of the leaflets, flowers dark red.*—Roxb.

1. Flowering branch, as copied from Roxburgh's drawing—2. A dissected flower—3. A legume partly open to show the seed.

248. *Cyamopsis psoraleoides*, (D.C.) Dolichos fabaeformis. (Linn.) 1. The upper portion of a plant bearing both flowers and fruit—2. Column of stamens monadelphous—3. The petals detached—4. Stamens, anthers pointed—5. Ovary split open, many-seeded—6. Portion of a legume opened to show the seed *in situ*—7. The same cut transversely—8. A seed cut transversely—9. Cut vertically, showing the cotyledons and incurved radicle—10. Cotyledons removed from the testa.

249. *Phaseolus psoraleoides*, (W. & A.) Erect or twining, young shoots and rigid peduncles beset with short rigid adpressed hairs; leaves trifoliate, membranous, glabrous above, sprinkled with silky hairs beneath, leaflets ovate or lanceolate, acute; stipules sessile, erect, acute; racemes 5-8 times longer than the leaves, floriferous, part elongated; peduncle very long, stout, terete; pedicels in pairs; bractes and bracteoles subulate, setaceous longer than the calyx, caducous; calyx 5-toothed; keel circinate; legumes pendulous, nearly straight, slightly compressed, long linear, many-seeded, pubescent. Seeds compressed, slightly truncated at both ends—Stem twining when growing in good soil and supported by bushes—flowers deep brownish purple.

1. Top of a flowering plant, *natural size*—2. A dissected flower—3. An anther—4. Top of the style and stigma—5. The ovary cut lengthwise—6. A mature pod after deliscescence, *natural size*—7. A seed.

250. *Alysicarpus pubescens*, (Law. Mss.)—Herbaceous, erect, stems terete, hairy, leaves short petiolated, linear lanceolate, acute, 3-nerved, glabrous above, pubescent beneath, racemes terminal, spicate, flowers subsessile, calyx 4-parted to the base, segments lanceolate, acute, clothed with long silky hairs, the upper one slightly bifid at the apex, legume terete, much contracted between the seeds, reticulated and corrugated on the sides, glabrous—Belgium common—Law. This species is allied to *A. longifolius*, but quite distinct.

1. A flowering plant, *natural size*—2. A dissected flower, calyx forcibly opened and the petals removed to show the ovary and stamens—3. Stamens—4. Anthers before the expansion of the flower, back and front views much magnified—5. The petals detached—6. Ovary cut longitudinally—7. Legume *in situ*—8. A seed—9-10-11. The same dissected. *All more or less magnified.*

251. *Alysicarpus longifolius*, (W. & A.) Herbaceous, erect, branched, stems terete, glabrous; leaves short petiolated, linear lanceolate, somewhat obtuse, slightly cordate at the base, glabrous above, a little pubescent beneath; stipules large, longer than the petioles, racemes spike-like, very long, pedicels short, approximated; calyx 4-cleft, to near the base; segments erect, overlapping at the edges, oblong, striated, hairy, ciliated, upper one shortly bifid, legume slightly contracted between the seeds, reticulated, pubescent 5-6 seeded, about twice the length of the calyx.

Not infrequent in black cotton soils in the Ceded Districts and Circars.

1. Flowering branch—2. A dissected flower, calyx split open to show the ovary and stamens—3. Petals—4. Stamens detached—5. Anthers—6. Ovary opened—7. Legume, *natural size*—8. The same split open—9. A seed—10. The same cut transversely—11. Cut vertically, showing the curved radicle—12. Cotyledons and radicle, testa removed, *all more or less magnified.*

252. *Cassia bacillifera*, (Roxb.) Leaflets from 10 to 12 pairs, oblong or oval, obtuse; stipules crescent-shaped, adnate; racemes terminal, on short lateral branches; the three lower filaments with an oval swelling near the middle—(Roxb.) Rumph: Amb: 2 t. 22—Arboreous, calyx of 5 dull redish ovate leaflets, petals of a lovely pink or rose colour, seed albuminous, when in flower the most beautiful of Cassia. Roxb.

Obs.—I have found it quite impossible to reduce this and a few others without ruining the figure. They therefore must stand for two plates each.

1. A flowering branch—2. A portion of an ovary split lengthwise—3. A legume—4. A portion cut lengthwise, to show the partitions—5. A portion with a seed *in situ*.

253. *Cassia alata*, (Linn.) Shrubby, branches spreading, irregularly angled, glabrous; leaflets 8-14 pairs, obovate, oblong, very obtuse, mucronate, glabrous, or very nearly so on both sides, the lower pair close to the branch and at a distance from the next pair; petiol triangular and the rachis without glands; stipules lanceolate, pointed, rigid, persistent; racemes terminal; legumes long, enlarged on each side with a broad crenulated wing, flowers yellow.

1. A leaf and raceme, *natural size*—2. A flower, the petals removed—3. The petals—4. One of the larger anthers—5-6. The small anthers—7. The ovary—8. A transverse section of the legume with a seed *in situ*—9. A portion of a legume cut lengthwise.

#### ACROCARPUS, R. W.

GEN. CHAR.—Calyx subcoriaceous, ebracteate, campanulate, 5-cleft, segments erect, the superior and inferior a little larger. Torus covering the tube. Petals oblong, subcoriaceous, about equal, sessile long persistent, inserted on the mouth of the calyx and a little longer than its lobes; aestivation subimbricate, stamens alternate with the petals, filaments broad at the base, subulate, two or three times longer than the petals, straight, anthers oscillatory, ovary long, stipitate, (stipe free) oblong linear, falcate, pointed with the short incurved acute style, many (about 15) ovuled, legume unknown.

A large tree leaves unequally pinnate, leaflets 3-4 pair, pale beneath, flowers scarlet—*Couratium*.

See Illustrations of Indian Botany, p. 198.

254. *A. fraziniifolius*, Arn.

1. Flowering branch, *natural size*—2. A flower, about the *natural size*—3. The same split open to show the insertion of the petals and stamens—4. A petal—5. Anthers—6. Ovary cut lengthwise—7. The same cut transversely, obtusely 4-angled—8. A young legume—9. A leaf.

#### SPHEROCARYA, Wall.

GEN. CHAR.—Calyx 5-parted: petals 5 minute, alternating with 5 stamens; 5 minute fimbriated scales between the stamens and sepals, ovary without a disk, style undivided, drupe inferior but smooth, globose, without a suture—Wall.

A showy tree with cinereous coloured bark, alternate, exstipulate leaves, small inconspicuous greenish flowers, and pear-shaped drupaceous fruit.

255. *S. edulis*, Wall.

1. Flowering branch, *natural size*—2. A flower seen from above—3. The same from behind—4. Dissected—5. A detached sepal with its fimbriated scale—6. An anther—7. The ovary—8. The same cut vertically, showing the ovule supported on a spiral podosperm—9. A full grown fruit—10-11. Sections of the same showing the nut *in situ*—12. A nut—13. The same cut vertically, showing the minute embryo in the apex of the seed.

I have copied this figure from Wallich's Tentamen Flor. Nepalensis as a suitable companion to *Scleropyrum Wallichianum*, tab. 241.

#### POLYOGONTIA, Blume.

GEN. CHAR.—Calyx inferior, campanulate, 6-toothed, deciduous; petals 6, minute, inserted on the margin of the calyx; stamens numerous, 12-18, about equal, inserted with the petals; ovary free, 1-celled, with 2 pendulous ovules; style one; stigma petalate; drupe reniform, dry, 1-seeded; embryo exalbuminous, inverse.

256. *P. ? Ceylanica*, (R. W.) Leaves from elliptic, very obtuse at both ends to sub-orbicular, glabrous, when dry, of a rusty brown colour beneath, racemes axillary, solitary, (always?) about the length of the leaves, covered with short adpressed hairs; flowers small, petals 5, reflexed, externally, very hairy round the margin.

*Ceylon in forests above Ruimbady.*

1. Flowering branch, *natural size*—2. A flower—3. The same dissected to show the position of the ovary—4. A petal seen from within—5. The same from without—6. Stamens—7. Stigma—8. Ovary cut vertically, showing the pendulous ovules—9. Cut transversely—10. A young fruit—11. The same cut transversely, seed solitary, *all more or less magnified.*

257. *A. Ameletia indica*, (D.C.) Procumbent; leaves obovate, opposite; spikes axillary; flowers sessile, solitary in the axils of the obovate bractes, bracteoles subulate, membranaceous, shorter than the tube of the calyx; stamens about equalling the calyx.

1. A flowering plant, *natural size*—2. A flower—3. The same cut open to show the ovary *in situ*—4. Stamens—5. A portion of the rachis showing the relative position of the flowers and bractes—6. The ovary cut vertically—7. Cut transversely—8. A ripe capsule after deliscescence—9. A seed—10. The same cut transversely—11. The embryo—12. A detached leaf of the most usual form, *all more or less magnified.*

257. *B. Ameletia tenuis*, (R. W.) Stems somewhat procumbent at the base, afterwards erect, most slender; leaves opposite, orbicular, spikes terminal, flowers solitary, longish pedicelled from the axil of a linear bractea; bracteoles large; stamens included, style projecting, capsule ovate, 2-valved.

1. Flowering plant, *natural size*—2. A flower—3. Cut open to show the ovary, stamens and petals—4. Stamens—5. Stigma—6. Rachis and flowers *in situ*—7. A capsule dehiscing—8. The same split in two, showing the central placenta.

258. *Ameletia rotundifolia*, (R. W.) Stems diffuse, procumbent; branches erect; leaves orbicular, opposite, sessile; spikes congested near the extremities of the branches; flowers solitary, in the axils of the sessile suborbicular or broad ovate cordate, pointed bractes; bracteoles very minute; stamens much longer than the calyx; capsule 4-valved.

1. A plant, *natural size*—2. A flower with its bractea and bracteoles—3. The same dissected—4. Stamens—5-6. Ovary cut vertically and transversely—7. A capsule—8. The same dehiscing—9. A seed, *all more or less magnified.*

259. *Nespa triflora*, Kunth.

1. Plant, *natural size*—2. A cyme—3. A flower after the fall of the petals—4. A flower split open, showing the insertion of the petals and stamens and the free ovary—5. Stamens—6-7. The ovary cut vertically and transversely, 3-valved, 3-celled.

Obs.—The analysis are taken from one of the lateral flowers, the centre ones being too far advanced—the centre one has a 4-lobed calyx and 4-valved capsule.

260. *A. Rotala verticellaris*, (Linn.) Calyx 3-5 lobed, petals and stamens 3-5; leaves linear lanceolate, verticelled.

1. Plant, *natural size*—2. A flower—3. The same split open, stamens, petals, and lobes of the calyx 3; style short—4. Stamens—5-6. Ovary cut vertically and transversely, 3-celled—7-8. Capsule dehiscing, and the valves opened, 3-valved—9. A seed.

260. *B. Rotala Roxburghiana*, (R. W.) Ammannia pentandra, (Roxb.) Calyx 5-lobed; petals and stamens 5; leaves opposite.

1. Plant, *natural size*—2. A flower with its bractes—3. The same split open—4. A capsule dehiscing, 3-valved, *all more or less magnified.*



Roxburghiana.



*Dalbergia tamarindifolia* (Roxb.)

J. H. B. M.





Roxburghiana



*Dalbergia apiculata* (Roxb.)

R. M. D. H.

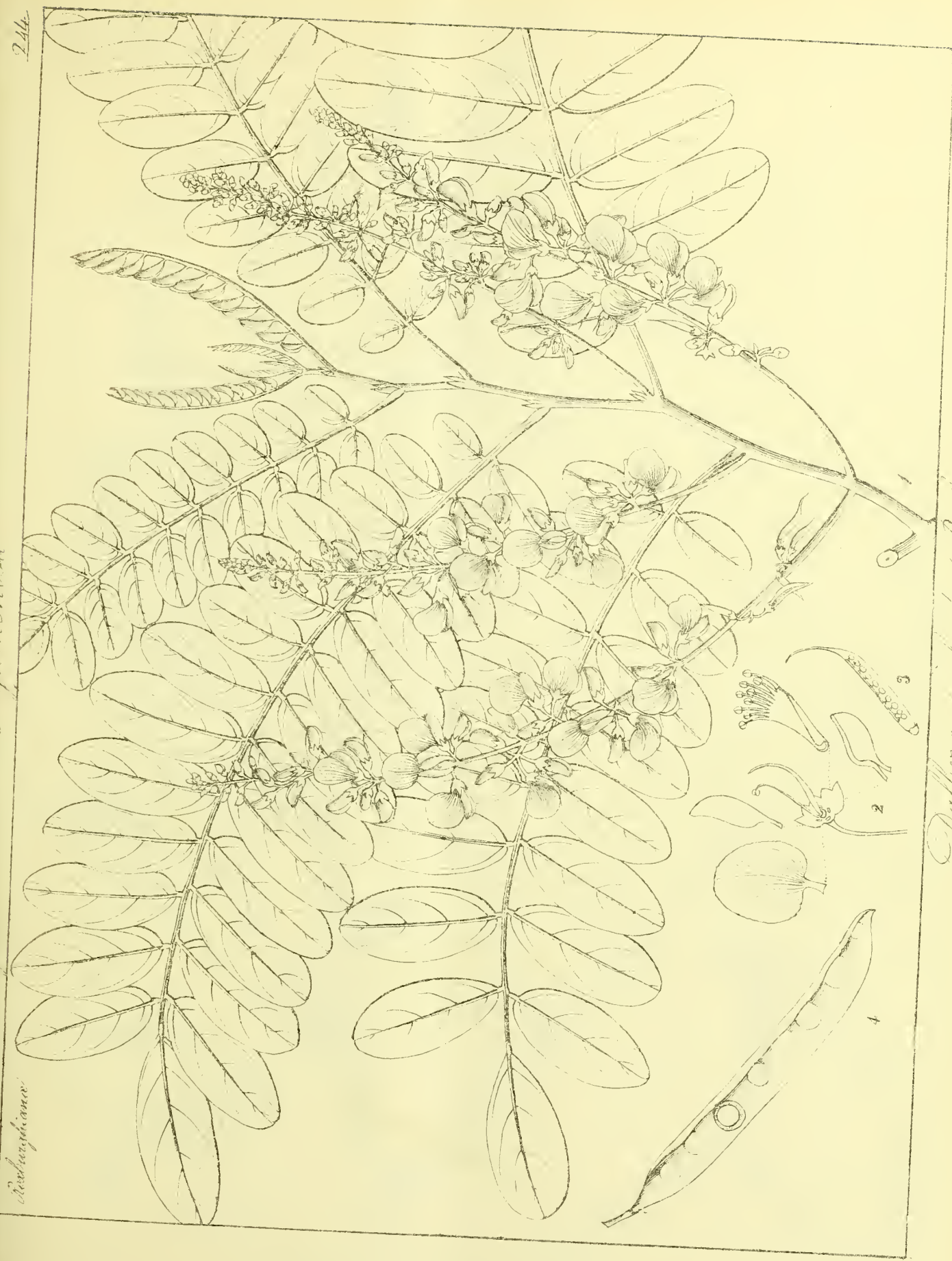




*leguminosa*

*du Sm: D. allertown*

*richardsoniana*



*Dalbergia robusta (Boxb.)*





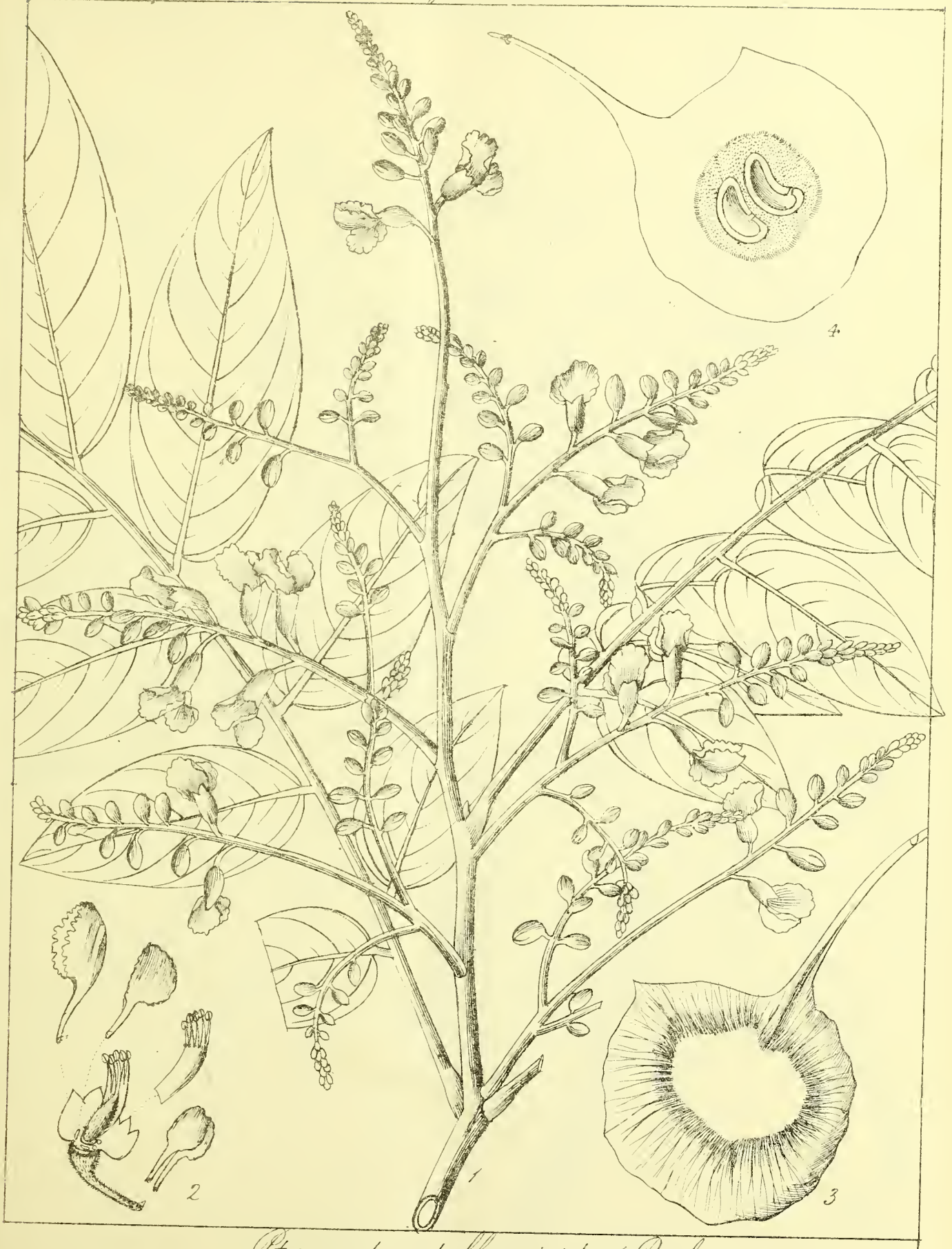
*Roburghiana*



*Sophora robusta* (Roxb.)







*Pterocarpus dalbergioides* (Roxb.)





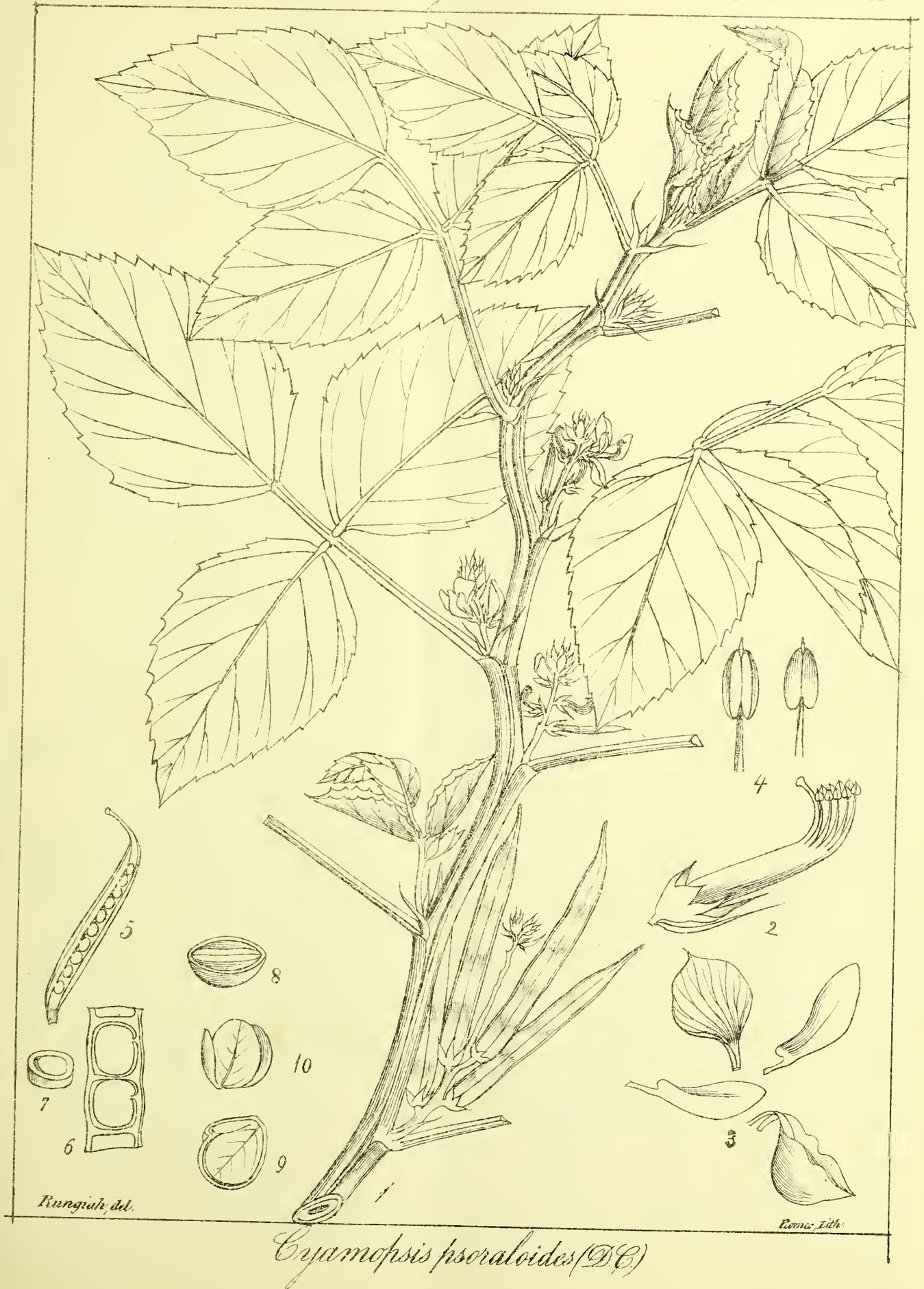
*Roburghiana!*



*Erythrina ovalifolia* / *Roeb.*

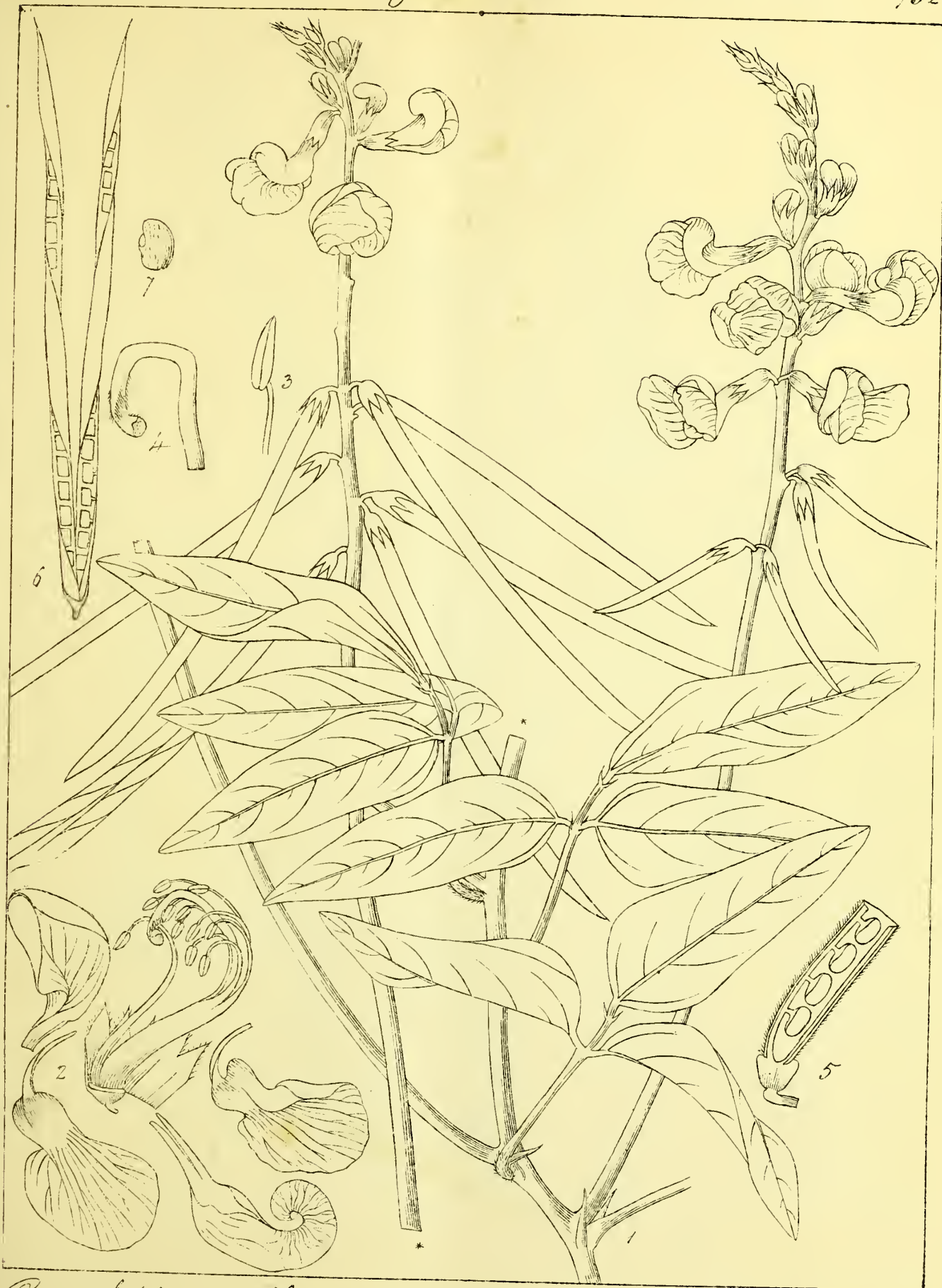






*Erymopsis psoraloides* (DC.)





Rungtiah del.

*Phaseolus psoraleoides* (W. & A.)







*Alysicarpus pubescens* (Lam.) M. & S.





Sungiah. del.

*Alysicarpus longifolius* (H. & A.)









*Cassia bicolor, Roxb.*

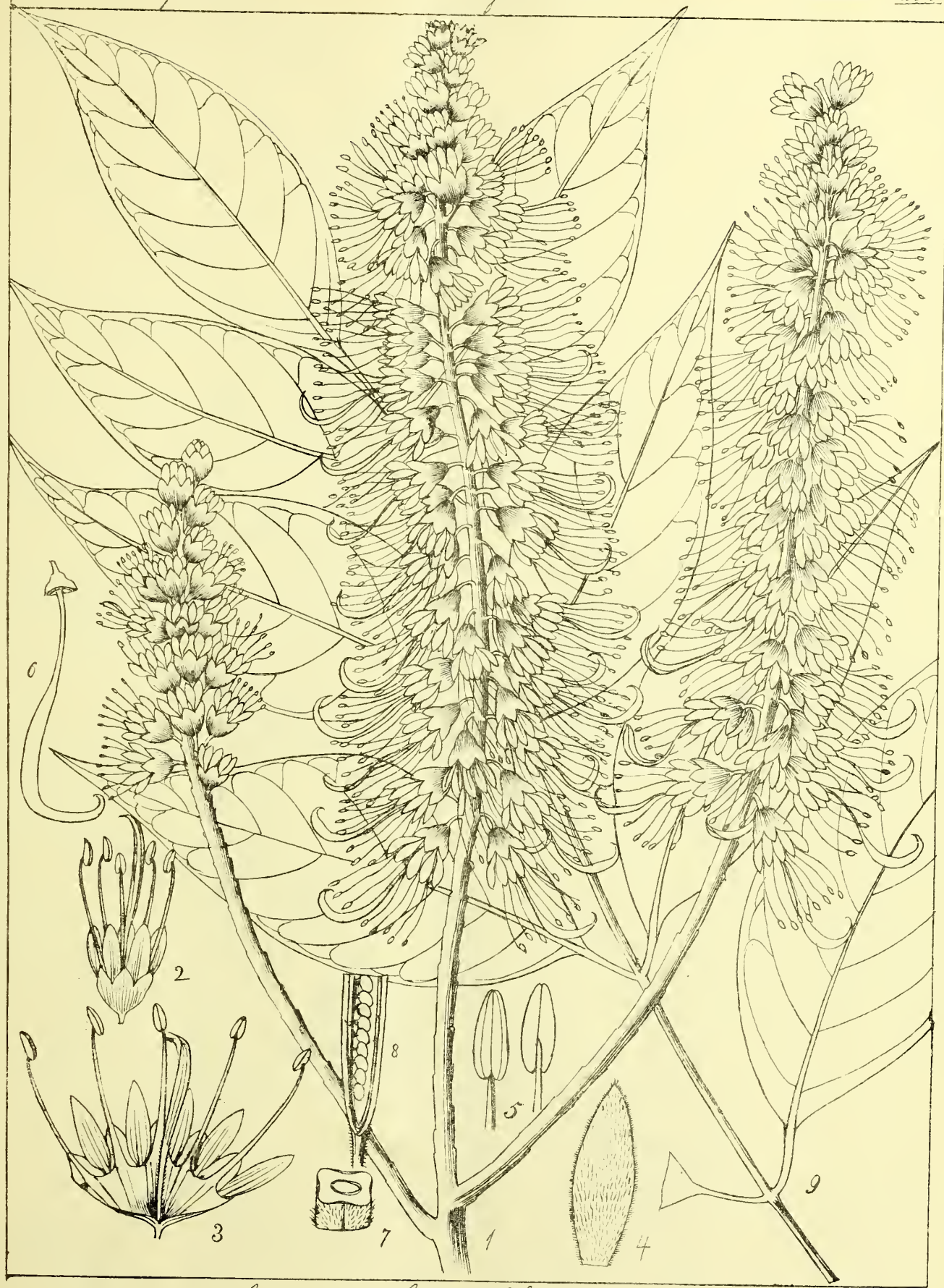












*Acrocarpus fraxinifolius* Arn.





*Spharocarya edulis* (Wall.)

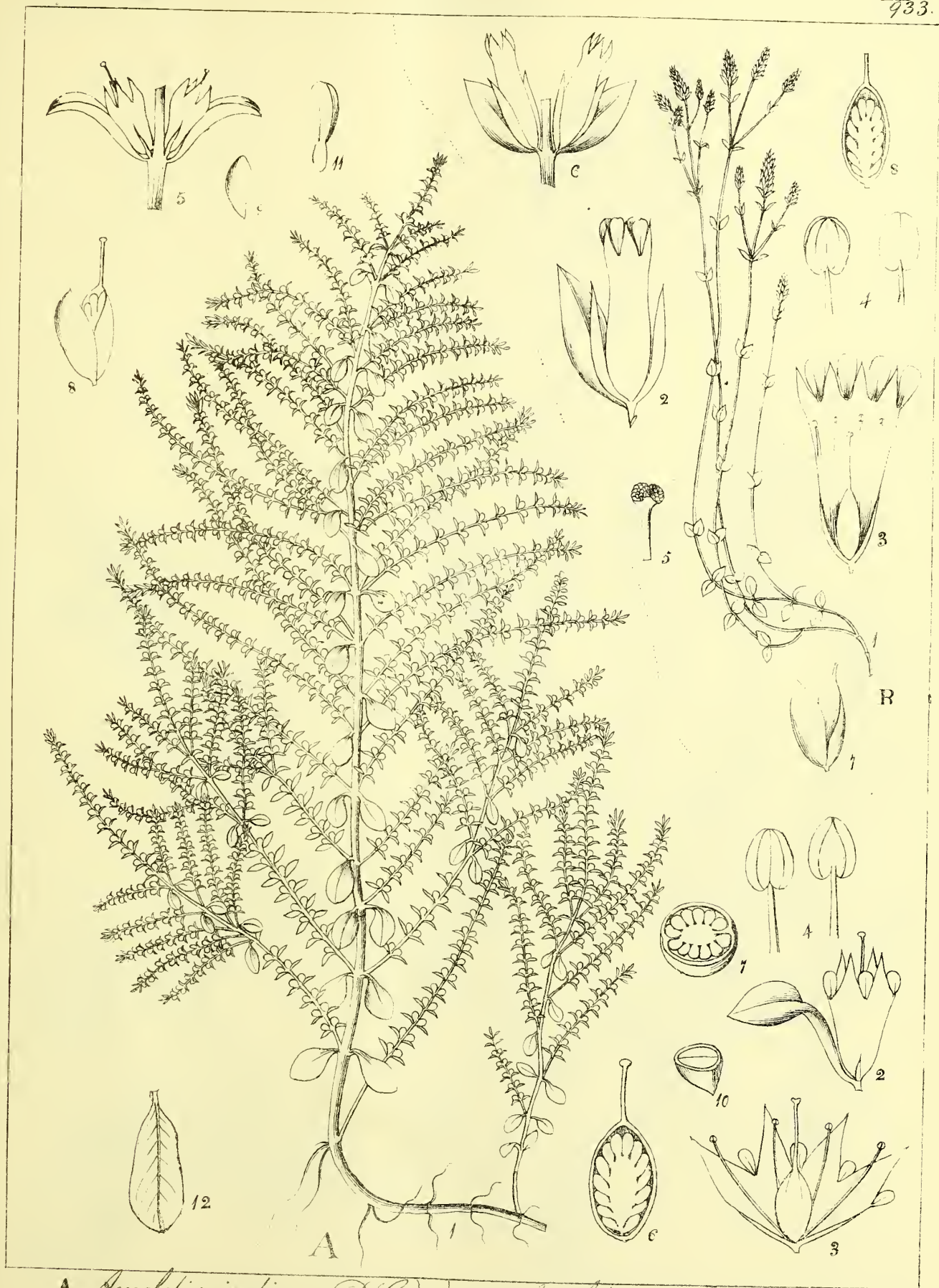






*Polyodontia? Ceylanica (R.W.)*



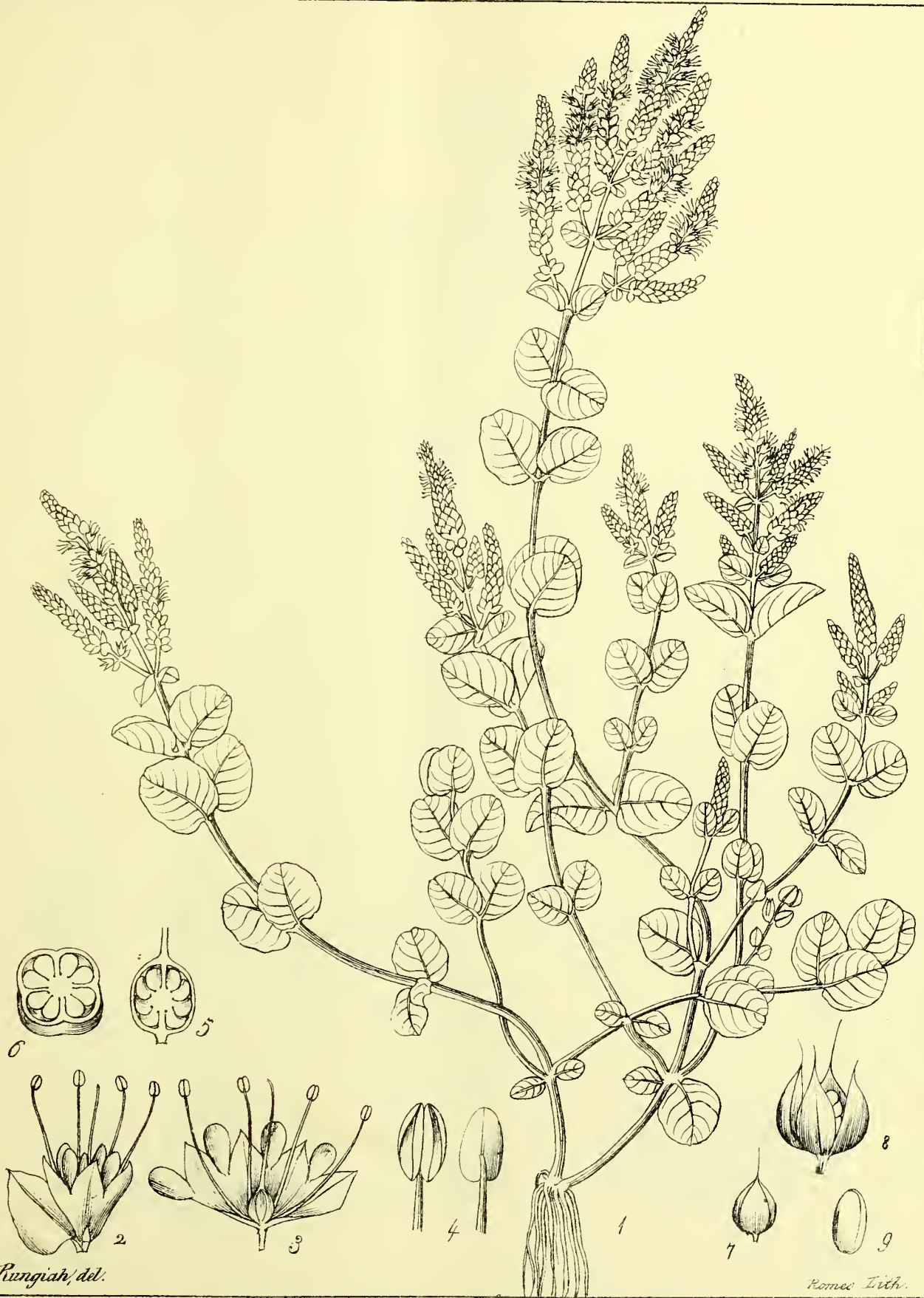


A. *Amelitia indica* (D.C.)

B. *Amelitia tenuis* (R.W.)

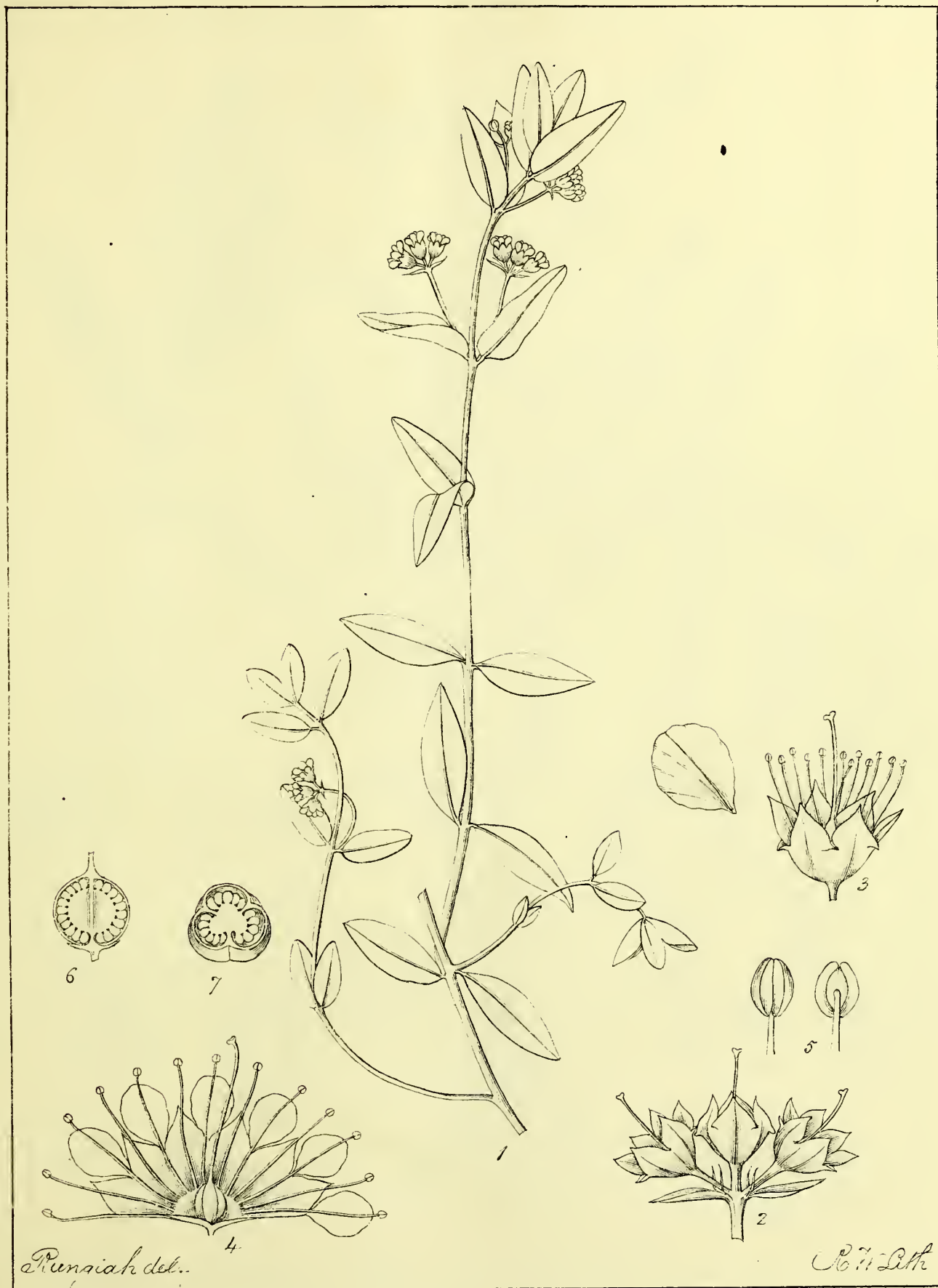






*Amelitia rotundifolia* (P. W.)  
*Ammannia rotundifolia* (R. & S.)

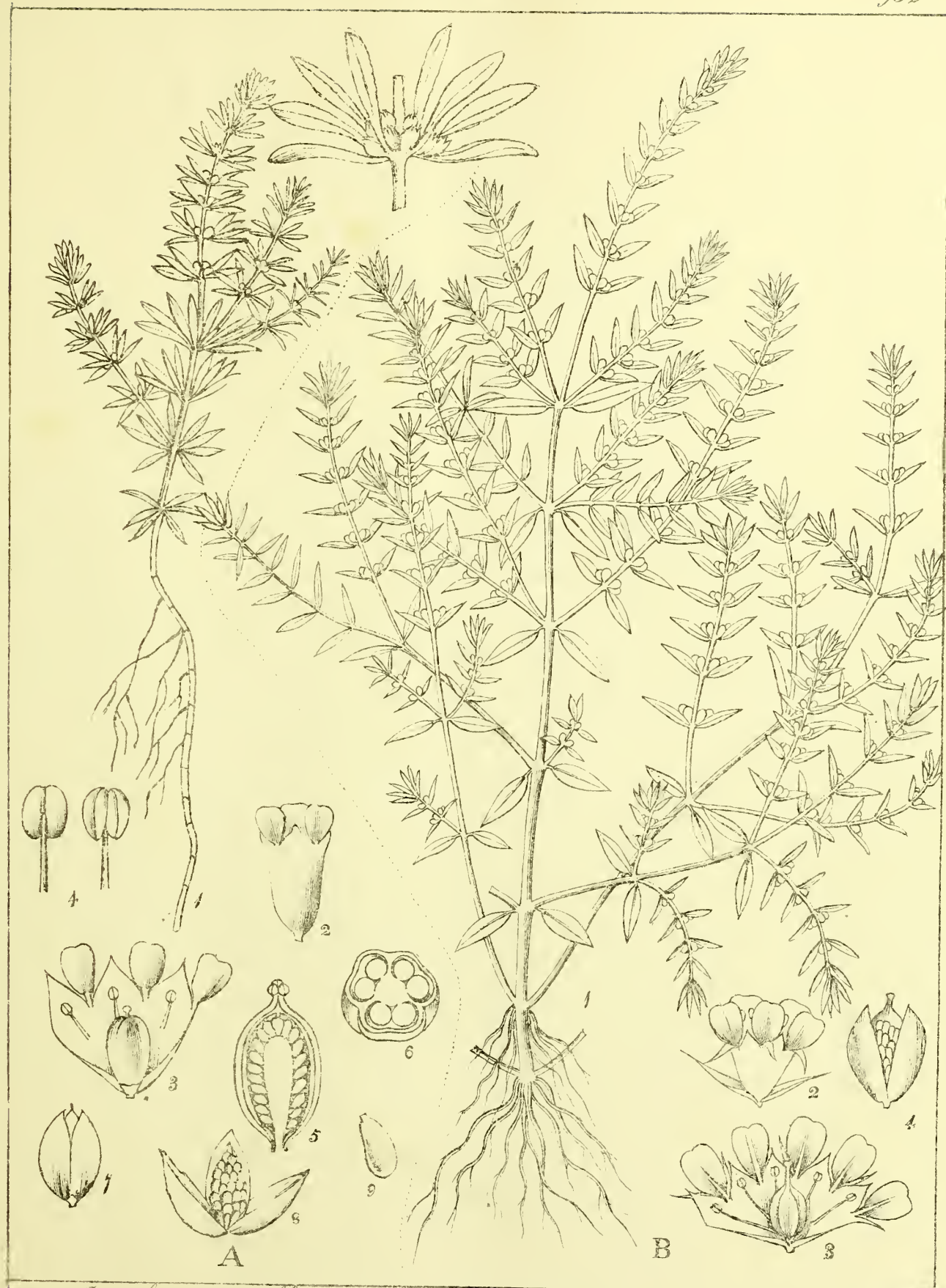




*Nesaea triflora* (Kunth);

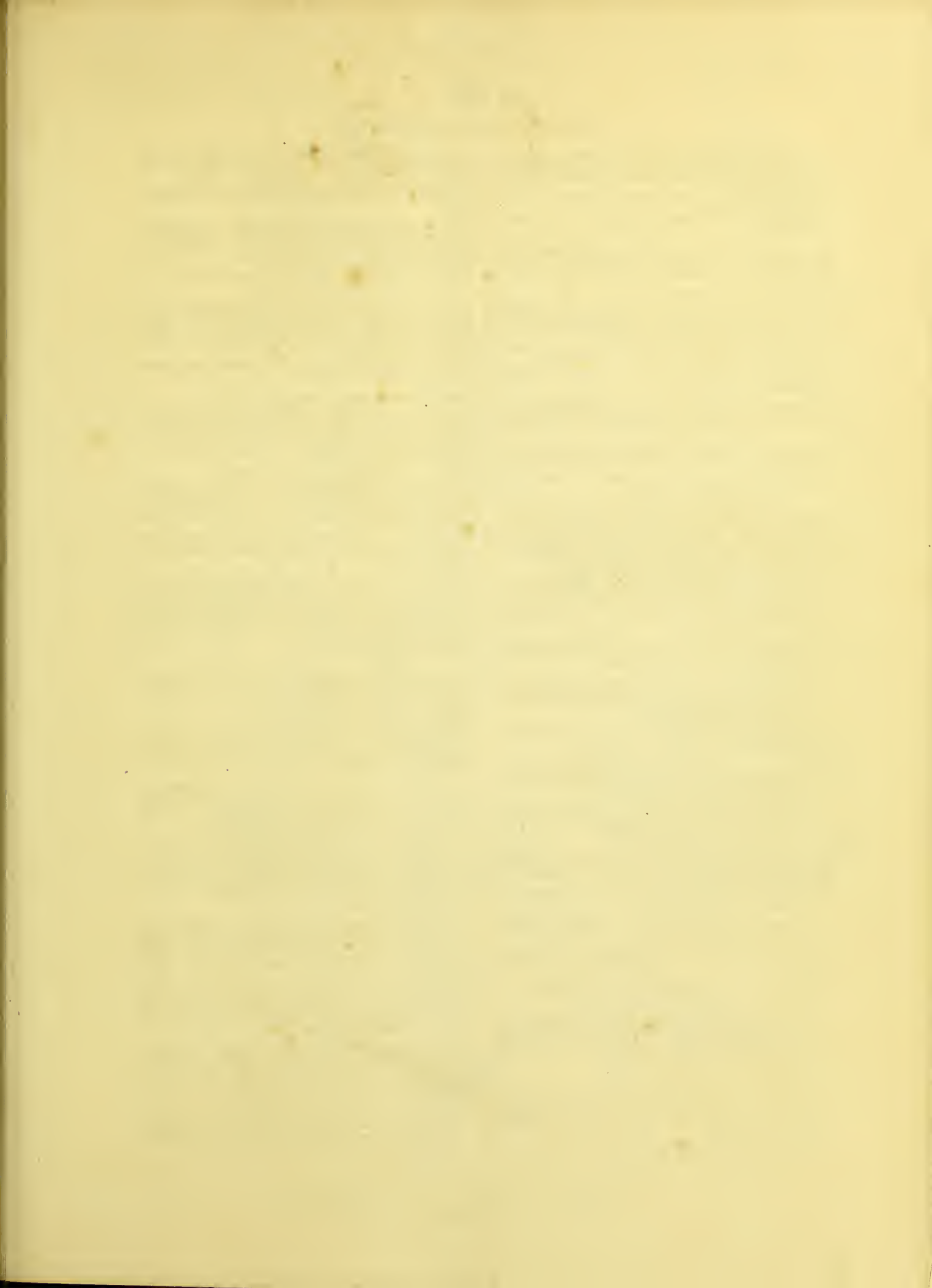






A *Salicaria verticillaris* (Linn) B *Salicaria Roxburghiana* (R. W.)  
*Ammannia pentandra* (Roxb)







## No. XIV.

### EXPLANATION OF PLATES.

261. *Dalbergia reniformis*, (Roxb.) tender parts ferruginous: leaflets from 5 to 11, alternate, lanceolate: panicles axillary and lateral: stamina in two 5-cleft bodies: legumes reniform; with thick rounded margins—Roxb.

*A large crooked bushy tree, leaflets 2 inches long 1 broad, legume of one or two, one-seeded, joints.*

1. Flowering branch—2. A dissected flower—Copied from Roxburgh's drawing.

262. *Dalbergia rimosa*, (Roxb.) shrubby: leaflets about 7, sub-ternate, oblong, finely parallel veined: flowers minute, panicle; filaments 10 in one body: legumes one rarely 2-seeded, rimose at the seeds—Roxb.

1. Flowering branch—2. Legumes—3. A seed.

263. *Bauhinia semibifida*, (Roxb.) scandent: leaves obovate, deeply 2-lobed: stipules broad, falcate: racemes terminal, calyx 5-leaved: petals oblong, unguiculate: stamens 3 with 2 rudiments, legume flat, smooth, few-seeded—Roxb.

*Flowers white changing to pale yellow, fragrant—Legume thin, smooth, of a dark chestnut colour.*

1. Flowering branch—2. Pedicel, tube of the calyx and ovary—stigma very large—3. A legume.

264. *Bauhinia scanlens*, (Roxb.) scandent: tendrils opposite: leaves round cordate, apex 2-lobed: racemes terminal, simple or ramous: flowers triandrous: legumes linear, from 4 to 5 seeded—Roxb.

*Petals densely clothed with soft ferruginous greydown, filaments 3. Seeds about the size of a chestnut, surrounded with soft spongy greyish yellow substance.*

1. Flowering branch—2. Legume open showing the seed.

DALHOUSIEA, Wall. Benth.

GEN. CHAR.—Calyx short, broadly campanulate, orifice entire, circumscissile at the base—*peritremium* broadly obovate with a short claw; a little longer than the wings. Wings subfalcate, oblong. Keel incurved, obtuse about the length of the wings. Stamens free, filaments glabrous. Ovary subsessile with several ovules. Style incurved, glabrous, slightly dilated at the base. Stigma minute, legume compressed, few-seeded—Benth. Comment. p. 5.

*Leaves simple, oval: peduncles axillary, once or twice bifid, ultimate divisions 1-jawed, with a pair of large opposite roundish many-nerved bractes hiding the calyx, and a similar pair at the forks of the peduncles. Flowers large, white, calyx bowl-shaped, mouth unequally 5-toothed, caducous—Roxb.*

265. *Dalhousiea bracteata*, (Wall.) Podalyria bracteata, (Roxb.)

1. Flowering branch—2. A dissected flower—3. Ovary cut open—4. A stamen—5. Legume—6-7. Dissected seed.

266. *Dalbergia frondosa*, (Roxb.) bark smooth: leaflets about 5 pair, alternate, oval, emarginate: stipules falcate: panicles axillary: stamens in two equal bodies: legume from two to three seeded.

*Flowers pale blue—legumes 1-4 seeded.*

1. Flowering branch—2. A dissected flower—3. Ovary cut lengthwise—4-5. Legumes—6. A seed lobe showing the embryo—7. Embryo removed.

267. *Flemingia strobilifera*, (Brown) Hedysarum strobiliferum, (Roxb.) shrubby: leaves simple, ovate: racemes terminal, imbricated laterally with reuniform folded indurated bractes enclosing the fascicle of flowers—Roxb.

1. Flowering branch—2. A bractea opened, showing its fasciculus of flowers—3-4. Pods—5. A seed—the magnified views Nos. 6, 7, 8, 9 and 10, are additions to Roxburgh's drawing.

268. *Flemingia bracteata*, (Hedysarum bracteatum, Roxb.) shrubby: erect, leaves narrow, cordate, racemes terminal, compound, bilobely imbricated with alternate reuniform indurated downy bractes, legume of one oval joint 2-seeded—Roxb.

1. Flowering branch, copied from Roxburgh's drawing—2. A bractea, with its enclosed fascicle of flowers.

269. *Cassia rhombifolia*, (Roxb.) leaflets about 5 pair, rhombiform, polished, racemes pendulous: loment cylindrical, partitions lined with soft bitter pulp—Roxb.

*Flowers bright yellow: seeds albuminous, differs from C. fistula in the shape of the leaves, more slender loment and general habit of the trees—Roxb.*

1. Flowering branch—2. Portion of an ovary cut lengthwise—3. Legume—4. A seed—5-6. The same dissected.

270. *Desmodium latifolium*, D.C. (Hedysarum Roxb.) shrubby, oblique: leaf simple, round, reuniform-cordate, somewhat repand: stipules semicordate, cuspidate, racemes axillary, clothed with hooked bristles, legumes from 3 to 5 jointed, notched on the under margin—Roxb.

1. Flowering branch—2. Legume—3. Seed.

271. *Desmodium gangeticum*, D.C. (Hedysarum Roxb.) shrubby, oblique: leaves ovate, acute, scabrous above, and villous underneath: racemes terminal, very long and slender, flowers paired, carina and wings reflexed: legumes from 5 to 6 jointed, straight on the upper margin—Roxb.

*Flowers either purple or white, the mottled leaves are characteristic.*

1. Flowering branch—2. A legume—3. A seed.

272. *Desmodium collinum*, (Hedysarum collinum, Roxb.) shrubby, oblique: leaves ovate, cordate, downy underneath: racemes axillary, very long, legume notched on the under side—Roxb.

This plant does not appear specifically distinct from 270—nor do they seem so in the figures, which are true copies of Roxburgh's drawing.

273. *Crotalaria bracteata*, (Roxb.) shrubby, erect, with many spreading branches, slightly sericeous: leaves ternate, leaflets broad, lanceolate, acute, smooth: stipules minute: racemes axillary or leaf opposed: a pair of large ovate bractes over the calyx; legume sessile, woolly, many-seeded—Roxb.

1. Flowering branch—2. A legume—3. The same opened.

BALANITES, Delil. D.C.

GEN. CHAR.—Calyx 5-parted, petals 5, stamens 10, filaments awl-shaped. Disk glandular, girding the ovary. Ovary 5-celled, 5-seeded. Drupe ovate, acute, or suborbicular, 1-celled, 1-seeded, by abortion; nut woody, pentagonal. Seed pendulous with a fibrous covering and a thickened endopleura about the radicle, cotyledons semiovate, plumula, 2-leaved.

*Trees with alternate bifoliate leaves and axillary spines, pedicels 1-flowered, aggregated, flowers small, whitish.*

274. *B. Egyptiaca*, Delil. (Ximenia Lin. Roxb.)

1. A flowering branch and portion of another, bearing a full grown fruit—2. An expanded flower—3-4. Ovaries cut vertically, showing the pendulous ovules—5. Cut transversely, 5-celled—6. A full grown fruit, the rind removed showing the pulp—7. The drupe cut transversely—8. Cut vertically—9. A seed cut vertically, showing the superior embryo.

BRACHYPTERUM, W. & A. Benth.

GEN. CHAR.—Calyx obliquely truncated. Anthers ovate, legume membranaceous, samaroid, stipitate, acute at both ends, both sub-incurved, superior one with a straight narrow wing, inferior one naked. Leaves pinnated; leaflets opposite: racemes long, pendulous.

This genus is established by Bentham (on our section of the same name) for the reception of *Dalbergia scandens*, (Roxb.) a most beautiful creeper.

275. *B. scanlens*, (Benth.) *Dalbergia scandens*, Roxb. W. and A.

1. Flowering branch, natural size—2. A dissected flower—3. Stamens—4. Pollen—5. Ovary cut longitudinally, ovules numerous—6. An ovule—7. Legume, natural size, about 3-seeded—8. A portion opened to show the seed in situ, natural size, but the wing removed—9. A seed detached—10. Part of the testa removed, showing the curved radicle—11. Cotyledons, with the exceptions mentioned, all more or less magnified.

276. *Memecylon angustifolium*, (R. W. Il. Ind. Bot. 1 p. 215) branches terete, leaves congested towards the extremities, narrow lanceolate, attenuated below, blunt pointed, 1-nerved, peduncles short from the scars of fallen leaves: flowers very numerous, umbellate or sub-capitate, pedicels short.

*Jungles about Courtallum, nearly allied to M. ramiflorum.*

1. Flowering branch, natural size—2. An unexpanded flower—3. A full blown flower—4. An anther—5. The ovary cut vertically, ovules erect—6. Cut transversely, 1-celled, ovules numerous, attached to a central placenta.

277. *Memecylon jambosoides*, (R. W. l.c.) branches cylindrical, glabrous: leaves ovate, lanceolate, acuminate, 3-nerved; the lateral pair of nerves sub-marginal, united to the middle one with smaller transverse parallel veins: flowers numerous, capitate, short pedicelled; peduncles from the scars of fallen leaves.

1. Flowering branch, natural size—2. An unexpanded flower bud—3. An expanded flower, the petals removed—4. Anthers before and after dehiscence of the flower—5. Ovary after the separation of the petals and stamens—6. The same cut vertically—7. Cut transversely, 4-ovuled—8. A full grown fruit, natural size—9. Cut transversely, showing the couvolute cotyledons—10. A cotyledon detached and opened, showing the radicle at the base.

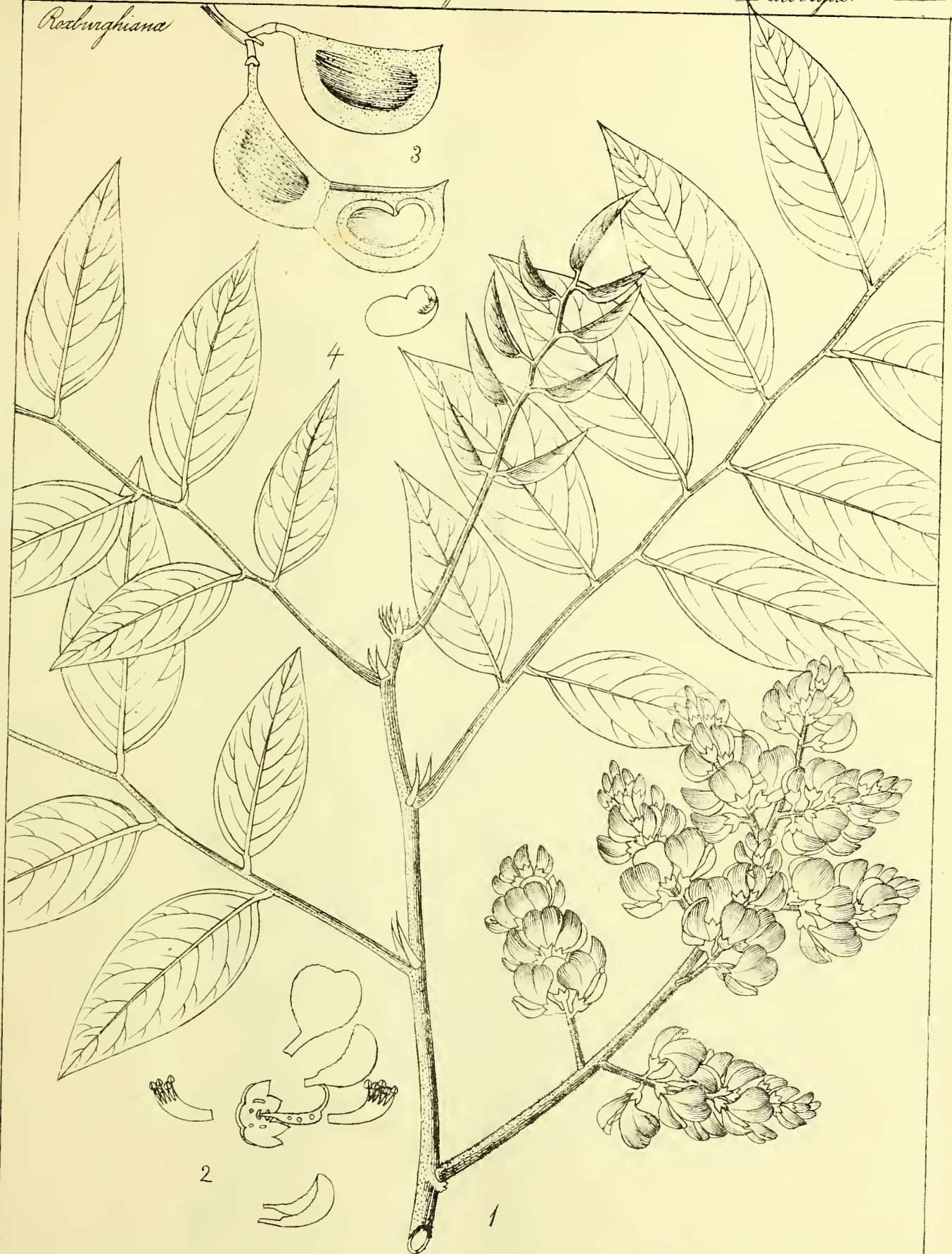
278. *Memecylon Heyneanum*, (Benth.) branches terete: leaves petioled, lanceolate, much acuminate: peduncles aggregated, axillary, or on the older branches below the leaves, about the length of the petioles, each bearing an umbel of pedicellate flowers; the pedicels about as long as the peduncle: stamens and style about equal in length, short.

1. Flowering branch, natural size—2. A flower bud—3. A flower, the petals removed—4. An anther—5. Ovary cut vertically—6. Cut transversely, 8-seeded—7. A young fruit, natural size—8. The same magnified—9. Cut transversely, showing the crumpled folded cotyledons—10. A cotyledon unfolded.

279. *Memecylon amplexicaule*, (Roxb.) somewhat arborescent, branches terete: leaves sessile, cordate at the base, from ovate to oblong and gradually acuminate: peduncles wanting, (or very short) pedicels 1-flowered on a sessile axillary, (or lateral on the older branches) tubercle: petals orbicular, sessile. Stamens scarcely longer than the petals, about half as long as the style. Fruit globose, 1-3-celled, 1-3-seeded—W. and A. Prod.

1. Flowering branch, natural size—2. A flower bud—3. A flower, the petals removed—4. Anthers—5. Ovary cut vertically—6. Cut transversely—7. A cluster of fruit, natural size, with the exceptions mentioned, all more or less magnified.

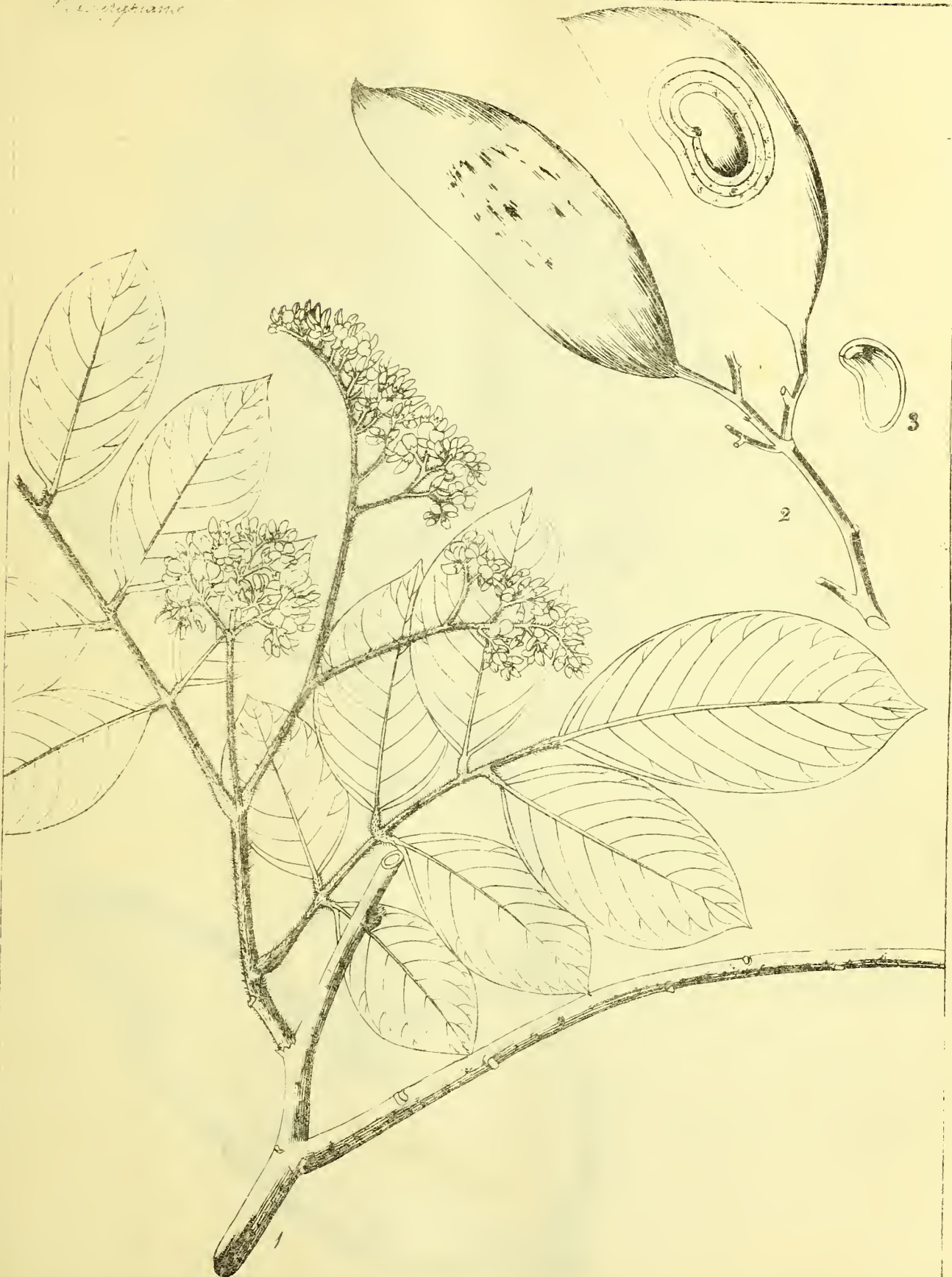
*Roxburghiana*



*Dalbergia reniformis* (Roxb.)











Casalpinex

Leguminosae

Caspica

263

Roxburghiana



*Bauhinia semibifida* (Roxb.)





Roxburghiana



Bauhinia scandens, Roxb.





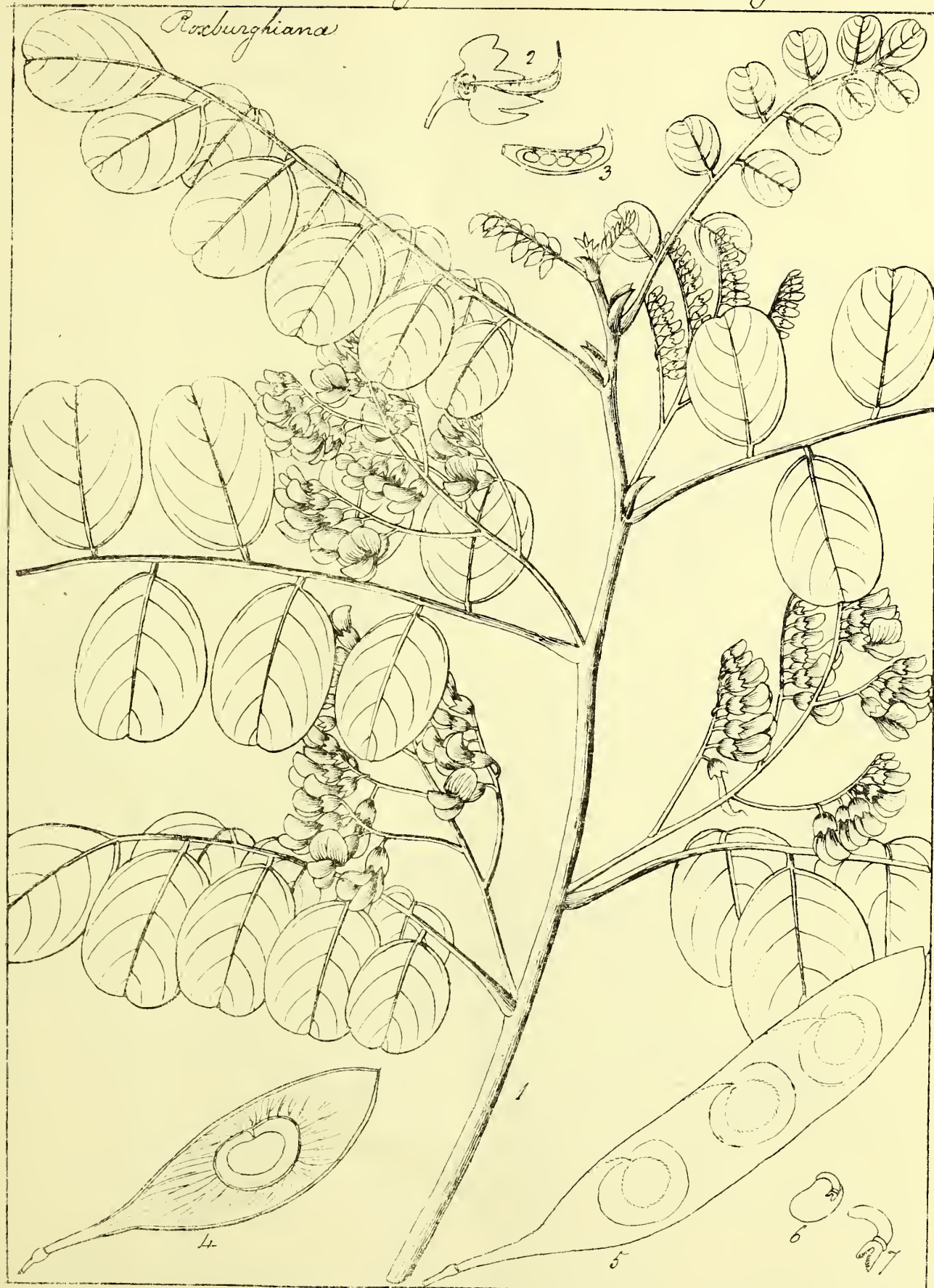
*Roxburghiana.*



*Dulhousiea bractiata* (Wall.)  
*Podalyria bractata* (Roxb.)



*Roxburghiana*

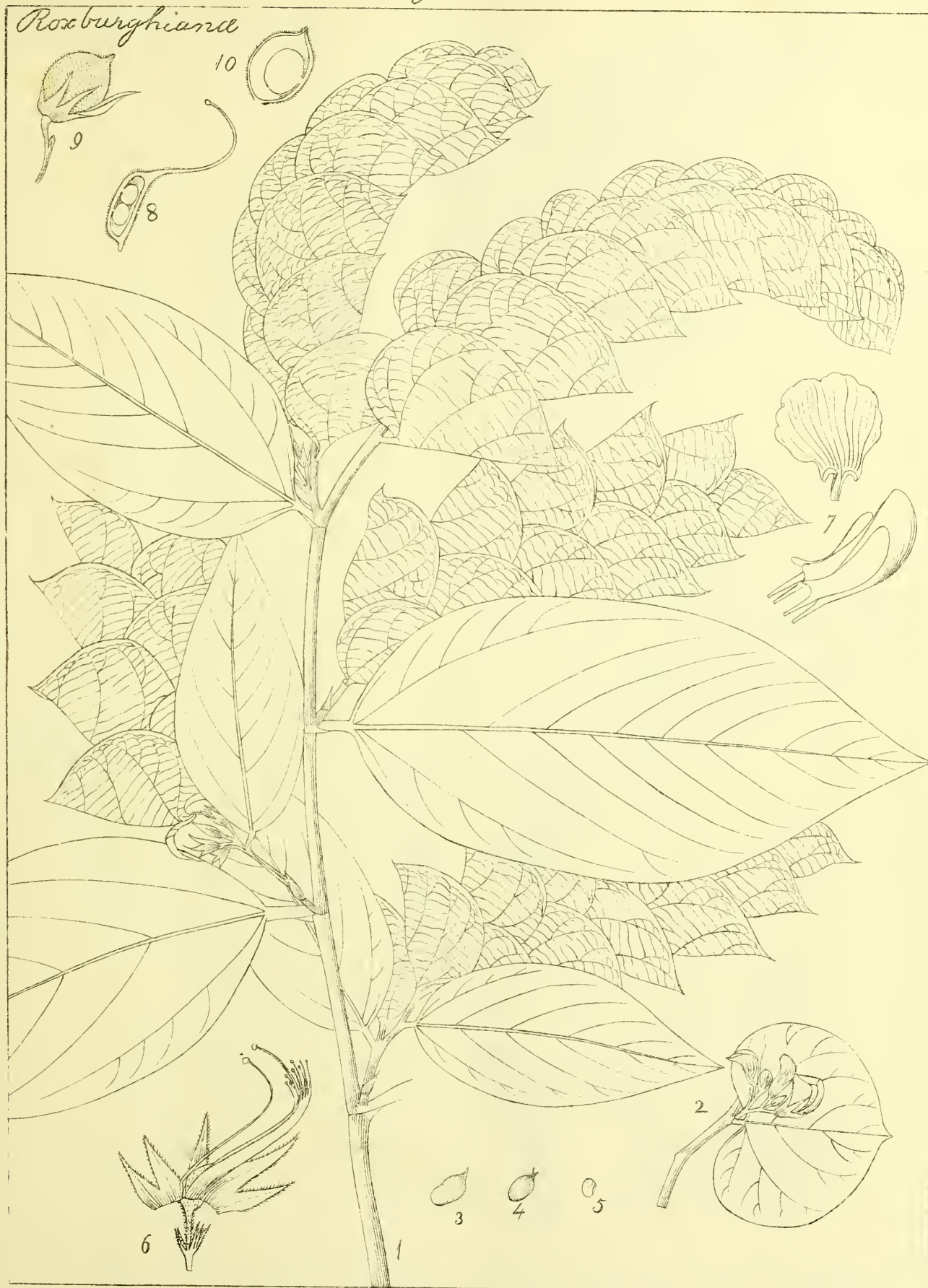


*Dalbergia frondosa* (Roxb.)





Roxburghiana



*Flemingia strobilifera* Brown  
*Hedysarum strobiliferum* (Roxb.)



*Fraserburghiana*

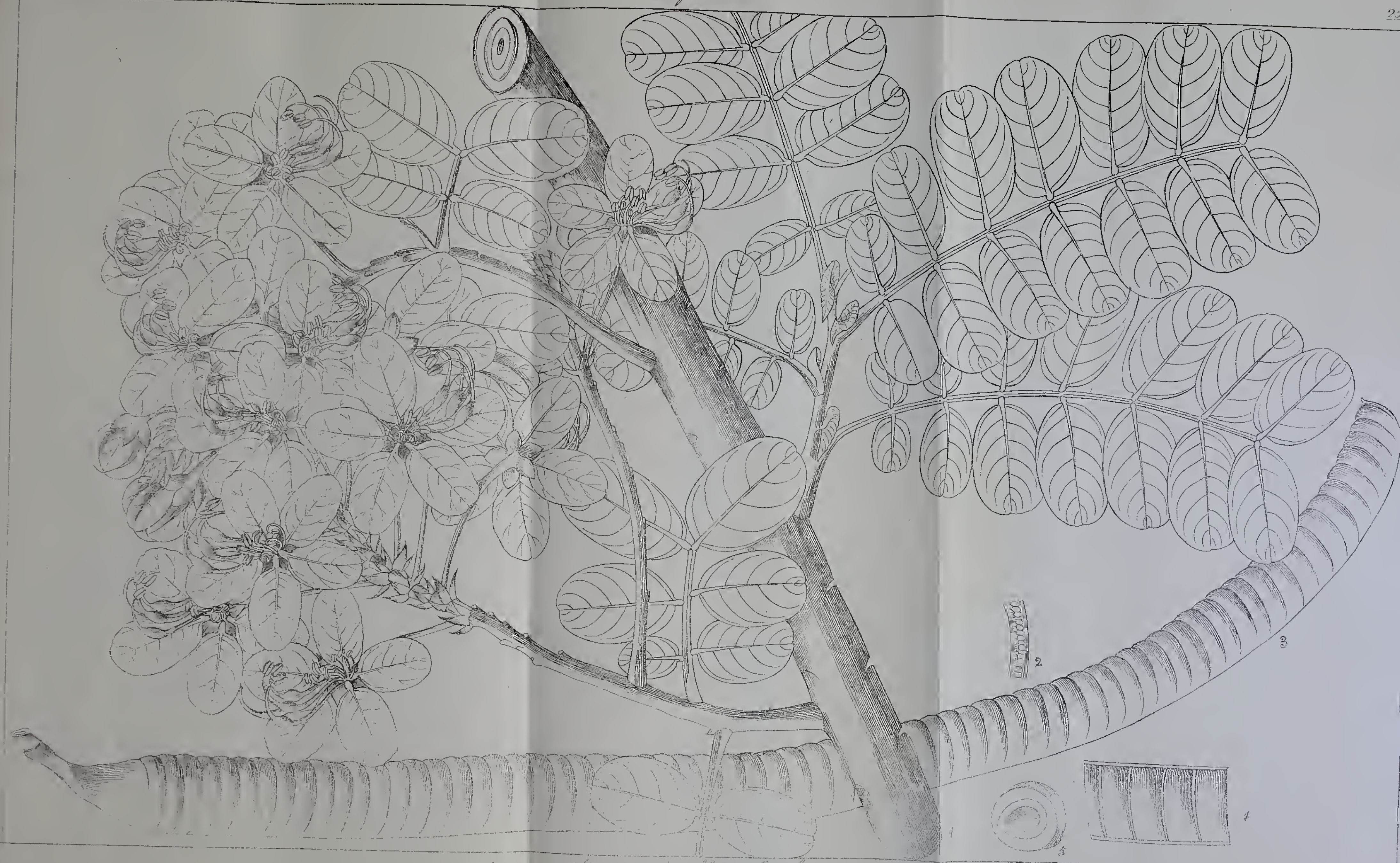


*Flemingia bracteata*  
*Hedysarum bracteatum* (Roxb.)









*Cassia mellifera* Boxb.





*Papilionacea*

*Leguminosa*

*Canariensis*

222

*Roxburghiana*

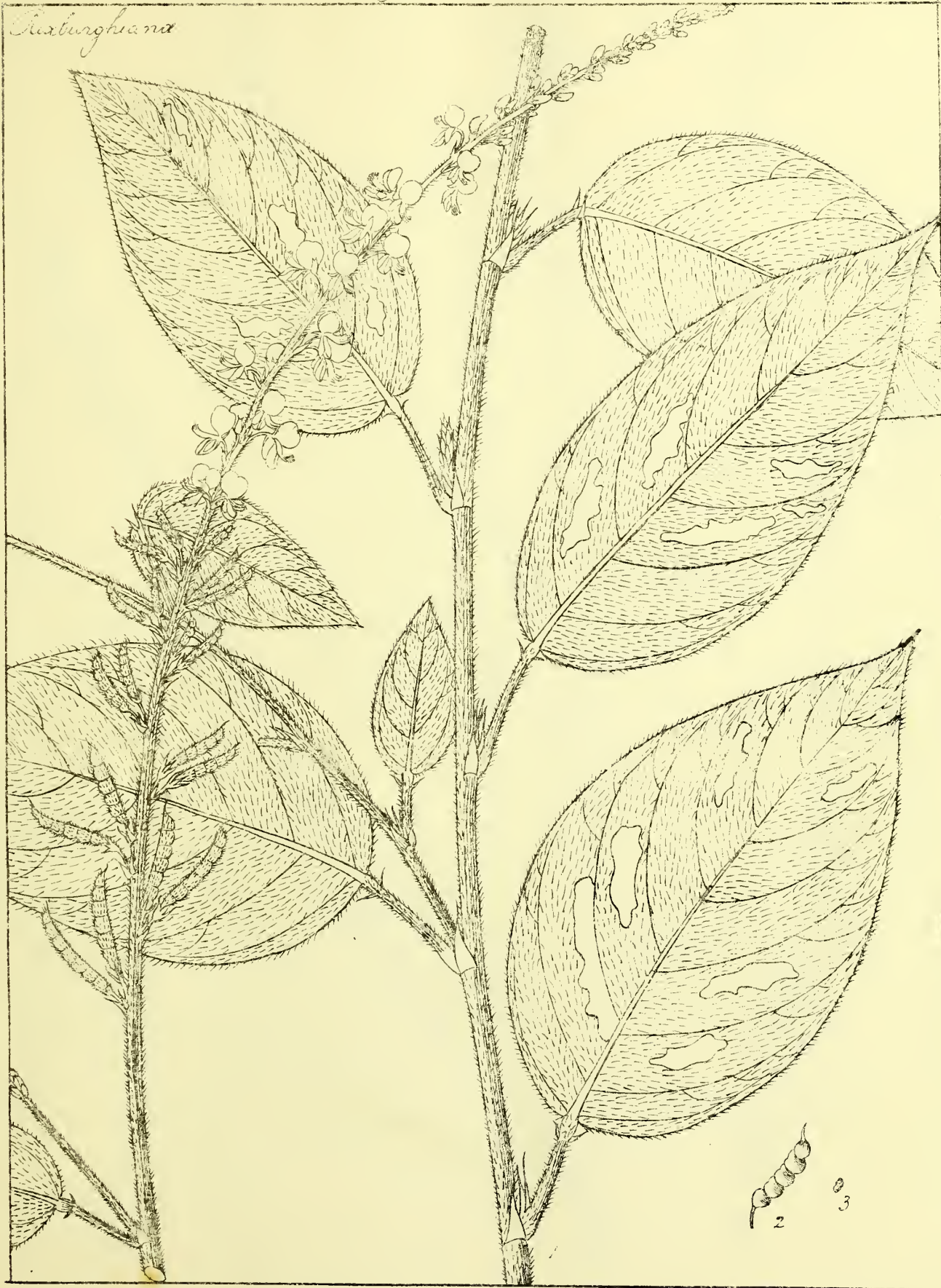


*Desmodium latifolium* (D. C.)  
*Hedysarum latifolium* (Roxb.)



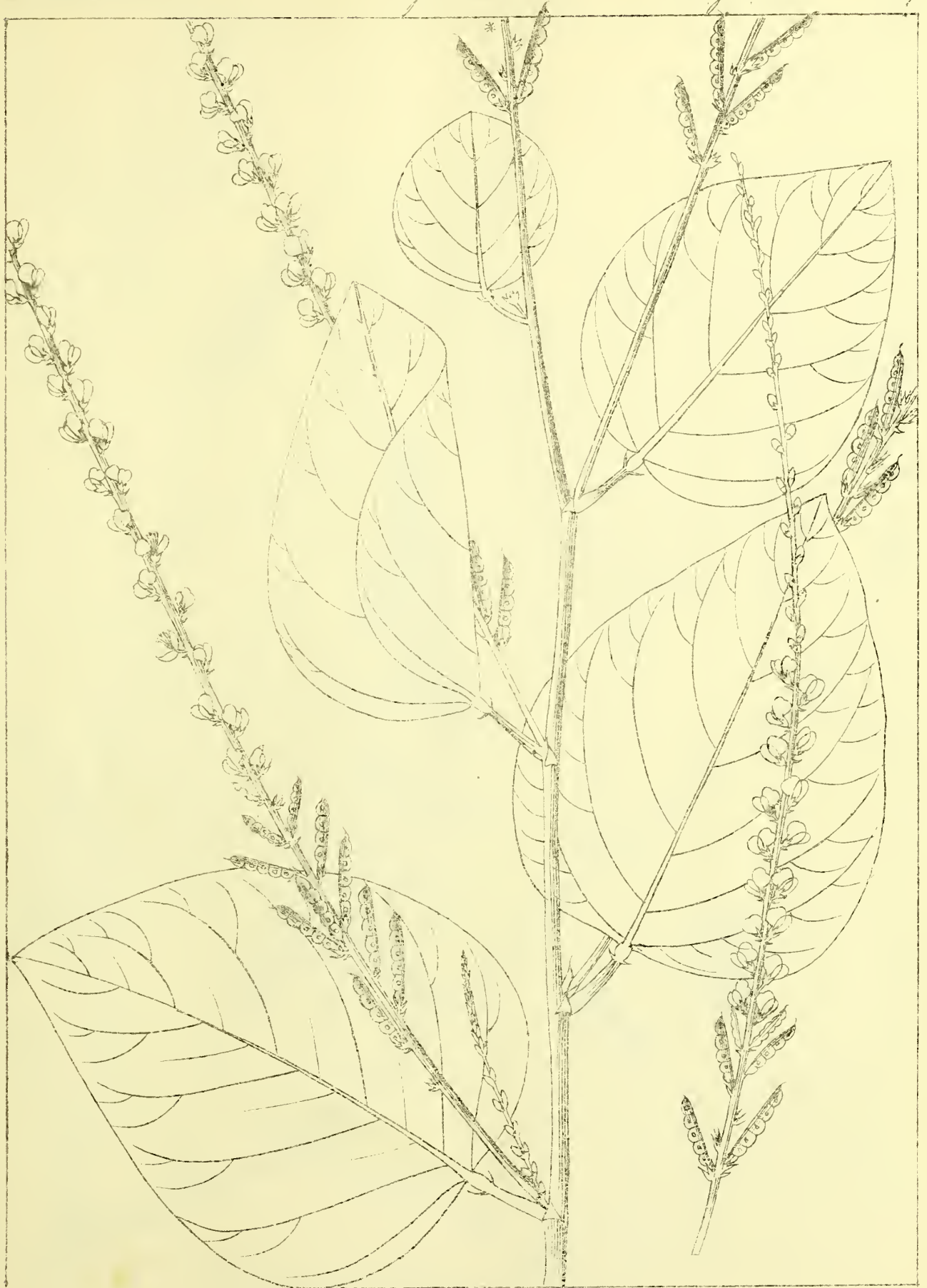


*Buxburghiana*



*Desmodium gangeticum* (D. C.)  
*Hedysarum gangeticum* (Roxb.)

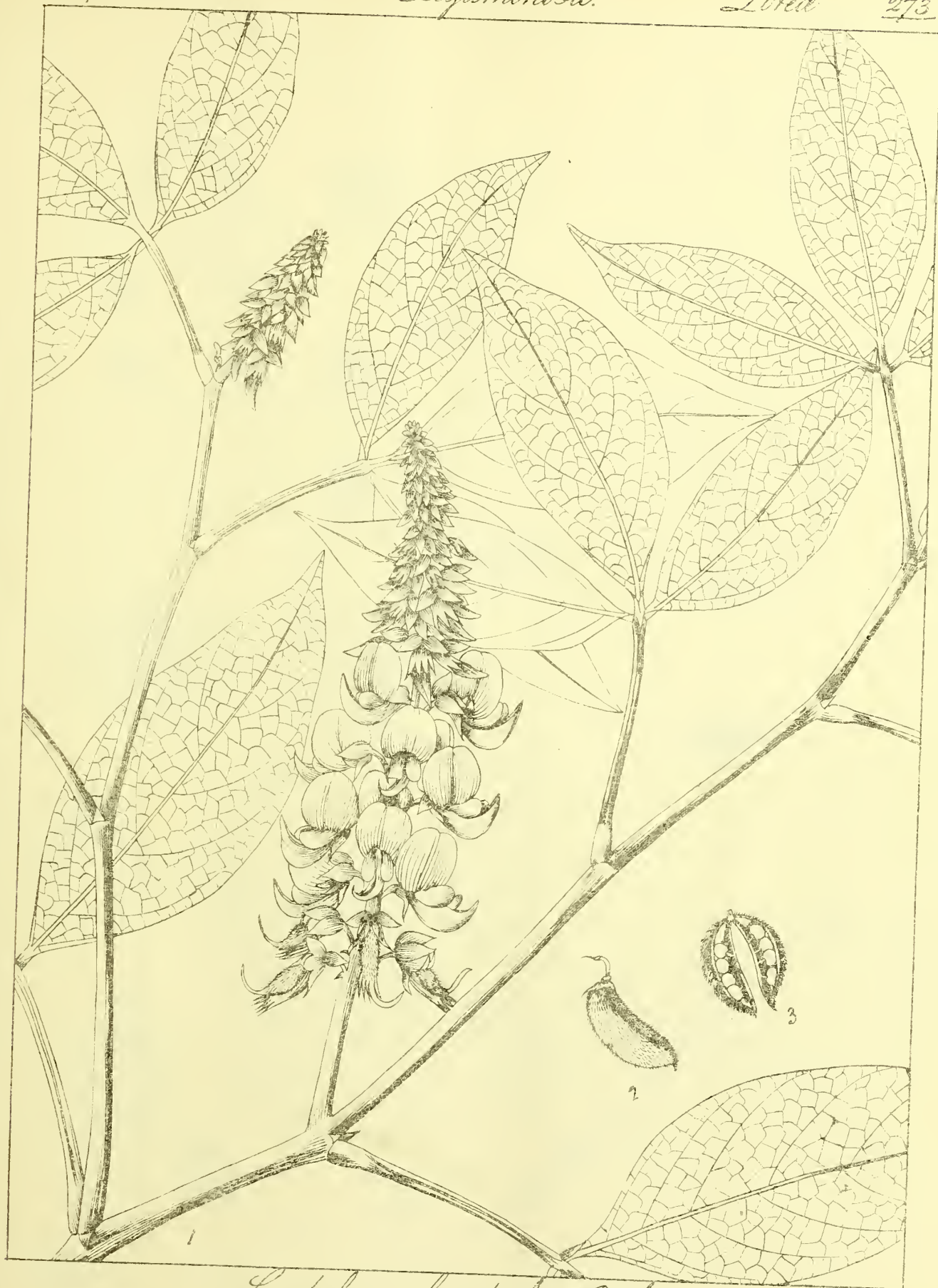




*Diosmedium latifolium*  
*Hedysarum collinum* (Roeb.)

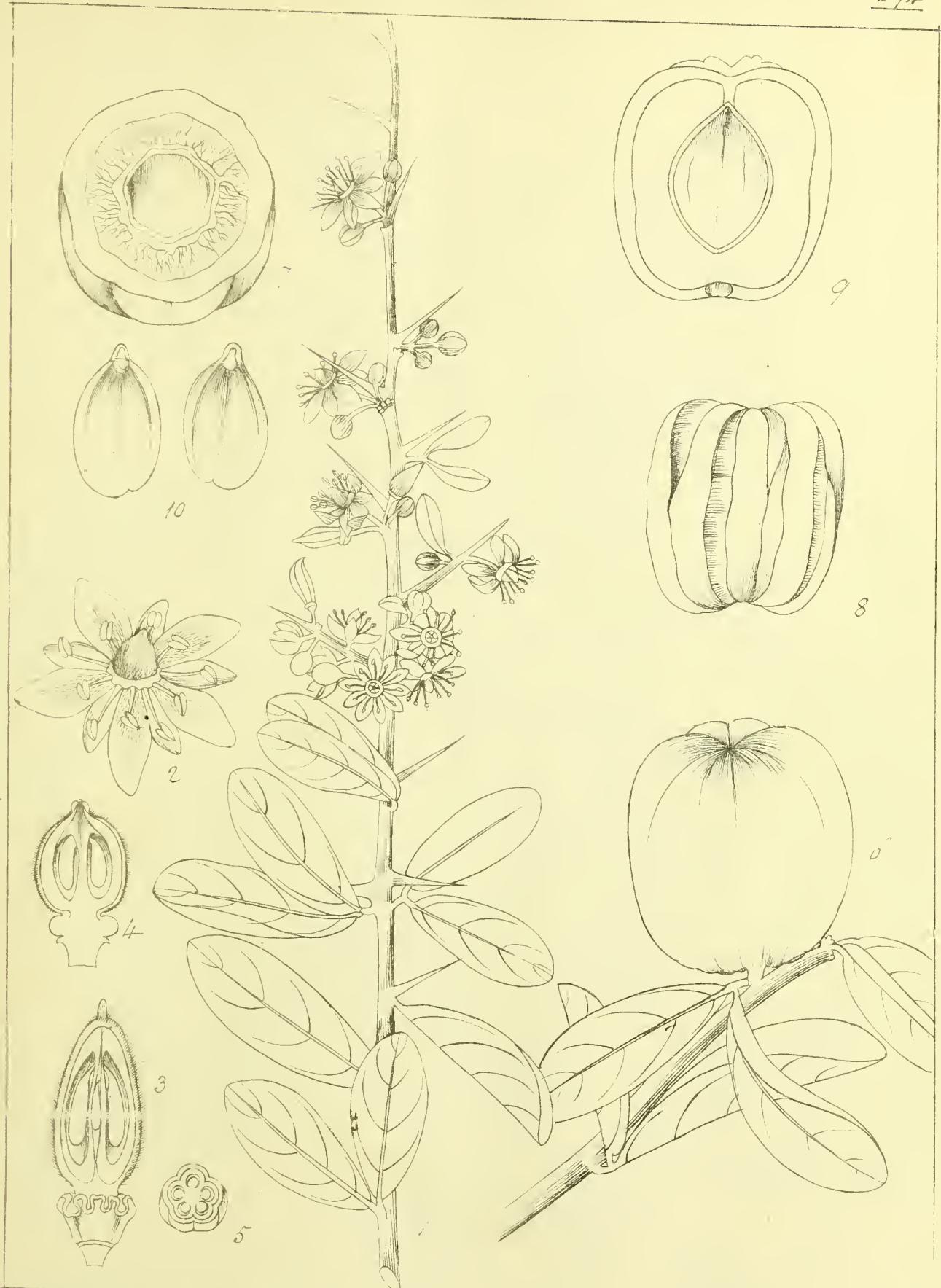






*Erotalaria bracteata* (Roxb.)



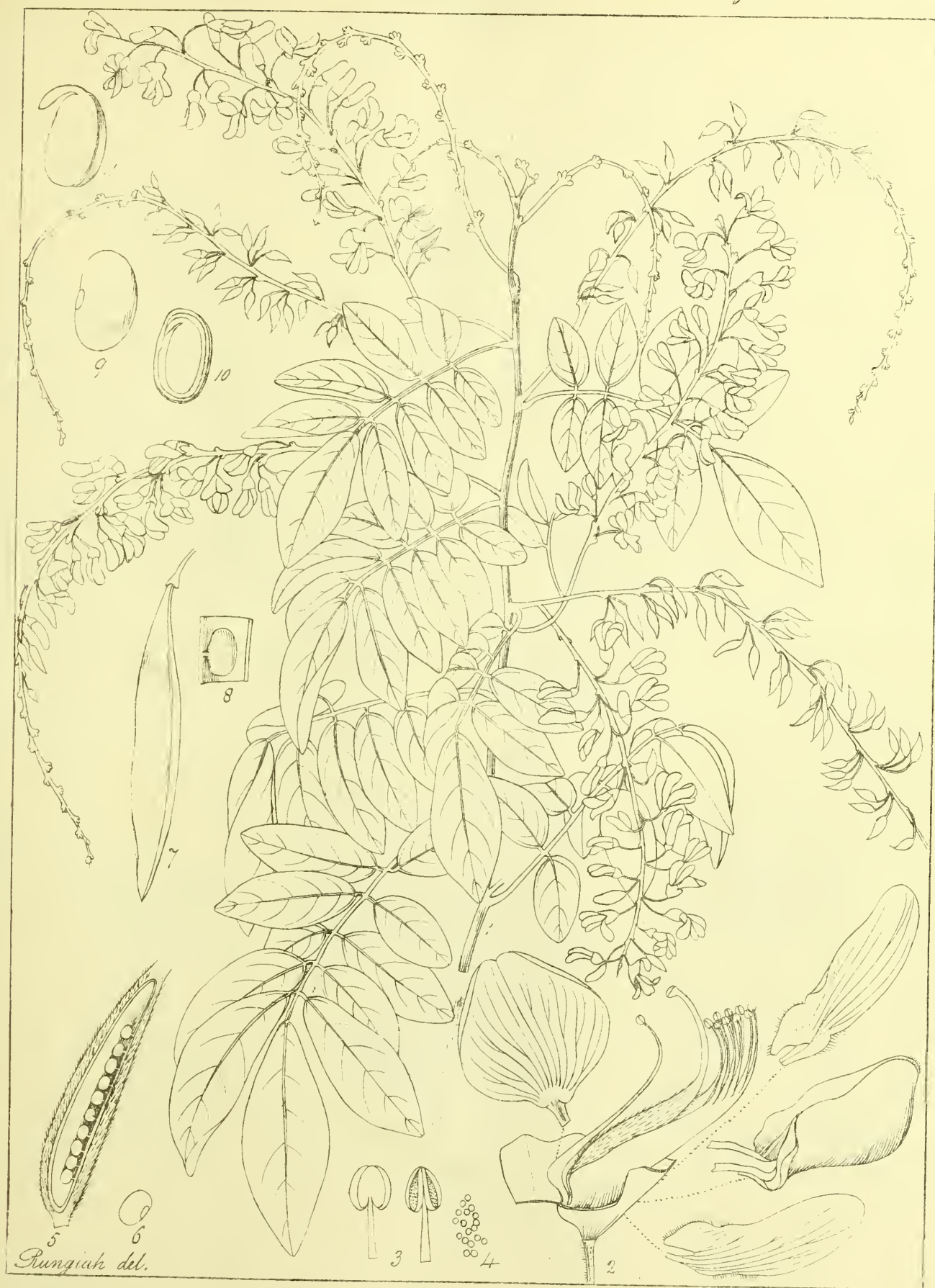


Rungiah del.

*Balanites aegyptiaca*. (D. C.)







கோடிப்பூ  
Codepoongoo } Tam.

*Brachypterum scandens* (Benth.)  
*Dalbergia scandens* (Roxb.)





*Rungtsh del.*

*Memecylon angustifolium. (R.W.)*





*Memecylea.*

$\frac{277}{985+86}$



*Rungiah del.*

*Memecylon sambosioides* (R. W.)





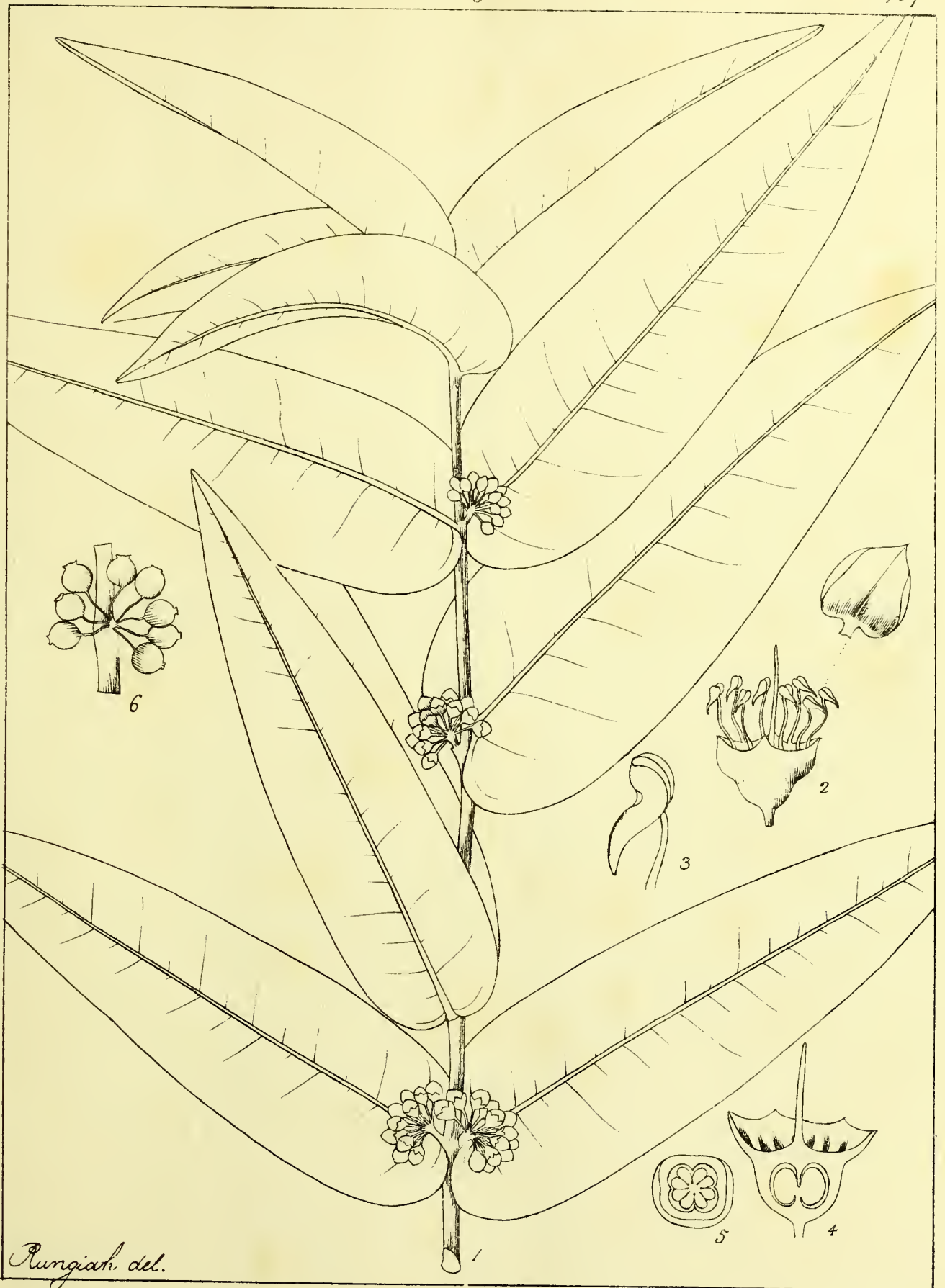
*Memecylon Heyneanum* (Benth.)





*Memecylea*

279  
787



Rungiah del.

*Memecylon amplexicaule* (Roxb.)







## EXPLANATION OF PLATES.

380. *Mucuna utilis* (Wall. MSS.) the principal difference of this species, if indeed a species and *M. pruri* consists in the hairs of its legumes being oppressed and almost silky not erect rigid and stinging. In all other respects they sufficiently agree the flowers in both are purple the greater size of this is probably attributable to cultivation in which state only it is known.

1 Raceme natural size--2 a dissected flower--3 stamens showing the alternate long and round anthers--4 round anthers--5 long ones--6 ovary--7 the same opened--8 cluster of pods--9 portion of a legume opened--10 a seed--11 the same cut longitudinally--12 transversely--13 the cotyledons testa removed--14 embryo.

281. *Bupleurum plantaginifolium* (R. W.) perennial, erect; stems terete, naked towards the base; leaves congested towards the apex of the stem, remote on the branches, somewhat imbricating at the base, petioled, spatulate, about 11 nerved, the middle one much larger; general umbel with 8-10 rays; partial with 10-14 flowers; leaflets of the involucre and involucre, 5-6 obovate, cuniate or oblong, decurrent on the stem, forming acute angles; fruit, prominently ribbed interstices with single large vitta.

Obs. In the accompanying figure, the transverse section of the seed is not well represented. The plant attains the height of from 7 to 11 feet.

Hab. Elk. Hill. Neigherries.—Lieut. Munro, to whom I am indebted for the specimens.

1 A flowering branch--2 a partil--3 a flower fruit view--4 the same side view--5 anthers--6 a petal--7 ovary--commisure of a simple mericarp--9 mature fruit the mericarps separating suspended from the carpophore--10 a fruit before the separation of the mericarps, but badly represented--11 cut transversely bad--12 the mericarp cut vertically showing the embryo. The seed, the testa removed. I had not an opportunity of checking the dissections of this figure until too late and the artist was not then conversant with the structure of this order.

282. *Zizyphus glabrata* (Heyne.) unarmed; leaves ovate-oblong or obovate, obtuse, crenate-serrate, blabrous, coriaceous; stipules both caducous: cymes scarcely longer than the petioles; ovary 2-celled: styles 2, nearly distinct; drupe turbinate: nut hard and thick, obovate, rugose, flattened, 1-2-celled.

1 Flowering branch, natural size--2 expanded flower--3 stamens--4 ovary immersed in the disk cut vertically--5 ovary cut transversely 2-celled all more or less magnified.

283. *Nomismia nummularia* (W. & A.) petioles longer the leaves: leaflets cuneate-obovate, broader than long, retuse; racemes few-flowered, lax, much shorter than the petioles, usually on the young shoots: calyx-segments (except the lowest) about half the length of the corolla: legume strongly wrinkled with a few parallel transverse slightly branched nerves, with reticulating connecting veins, terminated by the straight mucro-like base of the style, 1-seeded.

1 Portion of a plant natural size--2-3-dissected flower--4 united filaments--5 anthers--6 ovary cut open 1-seeded--7 mature pod opened--8 cotyledons testa removed all more or less magnified.

284. *Urania hamosa* (Wall.) shrubby, diffuse; young parts clothed with short hooked hairs; leaves simple and trifoliate; leaflets elliptic or roundish, sometimes emarginate, glabrous above, softly pubescent beneath: racemes axillary and terminal, hispidly hairy, before expansion of the flowers oblong or cone-like and imbricated with bractes, in fruit becoming much elongated and lax; bractes caducous, ovate with a long subulate point, hairy; pedicels shortly hairy, incurved at the apex, calyx shortly hairy, short, not longer than the first joint of the fruit; upper tip 2-toothed: segments of the lower one ovate-acuminate: legume 2-6-jointed, pubescent.

1 Flowering branch--2 dissected flower--3 legume--copied from Roxburgh's drawing.

285. *Lourea vesperilionis* (Desv.) lateral leaflets none, or small, obliquely cuneate at the base and truncated at the apex; terminal one transverse, about 10 times broader than long, tipped with a spiny bristle, 2-lobed; lobes divaricating, oblong-lanceolate, falcately covered obtuse.

1 Flowering branch--3 dissected flower--3 ovary--4 legume--5 seed--copied from Roxburgh's drawing.

286. *Pseudarthria viscida* (W. & A.) diffuse, prostrate; lateral leaflets obliquely ovate, terminal one rhomboid-ovate, pubescent on the upper surface, when old shortly villous on the under: racemes filiform, elongated; bractes subulate: legumes 3-4-seeded, 3-4 times longer than broad.

1 A branch in flower and fruit--2 a flower--3 stamens and ovary--4 calyx--5 stamens 6 anthers--7 legumes opened--8 seed cut longitudinally--9 the same testa removed.

287. *Cleome aspera* (Koen.) herbaceous, glabrous, rough with minute scattered prickles on both the stem and leaves: leaves trifoliate; leaflets oblong, many times longer than the petiole: stamens 6: silique terete, torulose, glabrous, attenuated at the base, but quite sessile, acuminate with the subulate style: torus inconspicuous. — a; leaflets obtuse or slightly acute.

1 Plant natural size.

288. *Trianthema obcordata* (Roxb.) perennial; stems diffuse, prostrate, slightly pubescent on the upper side: leaves, one of each pair larger and obovate or obcordate, the other smaller and oblong: flowers solitary, sessile, nearly concealed within the broad sheath of the petioles: stamens 15-20: style simple: capsule 6-8-seeded; lid concave with two spreading teeth, nearly quite closed at the bottom, nut-like, and including one seed.

1 Plant natural size--2 a dissected flower--3 ovary--4 the same cut vertically--5 the capsule after detriscence--6-7-8 a dissected seed,

289. *Urania Lagopoides* (DC.) suffruticose, procumbent, rooting at the joints; stems terete, pubescent: leaves simple and ternate; the terminal leaflet much the larger, roundish-ovate, sometimes emarginate at the base, obtuse, mucronate, sprinkled with a short scabrous pubescence: racemes terminal, conical-oblong, dense, very hairy; pedicels shortish, incurved at the apex, and with the calyx densely bearded: upper lip of the calyx short, the segments ovate-acuminate; lower reflexed, the segments elongated and subulate-setaceous: legume 2-jointed; joints orbicular-ovate, polished.

1 A flowering branch--2 flower--3 legume.

290. *Urania Alopecuroides* (Doodia Alopecuroides Roxb. fl. Ind. 3-368,) perennial, diffuse, the tender plants clothed with small hooked bristles; leaves ternate leaflets oval obtuse racemes imbricated and resembling a floeces tail from the hairing of the calyx tracts and incurved pedicels which bend the two jointed legumes against the rachis the upper lip of the moneste and two toothed. Roxb.

1 A flowering branch 2-3 dissected calyx and legume.

291. 292. *Desmodium triflorum* (DC.) procumbent, diffuse: leaves trifoliate; leaflets orbicular, obovate, or obcordate, more or less pubescent or hairy: stipules scarious, lanceolate; peduncles axillary, solitary or fascicled, 1-3-flowered: calyx-segments acuminate: vexillum obovate with a long claw: style bent acutely near the summit, and tumid at the angle: legume hispidly pubescent, 3-6-jointed, notched into the middle on the lower margin, even on the other: joints truncated at both ends.

293. *Desmodium quinque-angulatum* Hedysarum quinque angulatum Roxb. herbaceous diffuse 5 seeded hispid: leave ternate; leaflets oval downy; stipules cordate: racemes numerous: flowers paired: legumes hispid sex-jointed notched on both margins. Roxb.

Obs. In our prodromus we have united this with tab. 298--11. *auriculatum* R. *Desmodium diffusum* D. C. and I believe correctly: as however Roxburgh thinks that they "differ specifically in the stipules and shape, of the leaflets, independent of their duration" (this he describes as perennial that as annual) I give both figures—N. B. for quinque angulare on the plate substitute quinque angulatum. Roxburgh's specific name.

294. *Desmodium gyrans* (DC.) suffrutescent, erect, twiggy; branches rather slender, angled, glabrous: leaves petioled, trifoliate; leaflets narrow-oblong or oblong-lanceolate; obtuse at both ends, glabrous above, adpressed-pubescent beneath; the lateral pair very small: racemes axillary and terminal, numerous towards the top of the branches, and forming together a large panicle: bractes broadly cordate, concave, before expansion densely imbricated over the flowers, caducous: flowers short-pedicelled: stigma elongated laterally and as if 2-cleft: legume flat, pubescent, straight on the upper margin, crenated on the lower, 10-12-jointed.

A branch in flower and fruit copied from Roxburgh's figure.

295. *Nomismia capitata* (W. & A.) petioles above the length of the leaves: leaflets nearly orbicular with a cuneate base: racemes pendent, many-flowered, longer than the leaves, with a slender leafless and somewhat abortive young shoot springing from about the middle of the peduncle; the floriferous portion at first somewhat lax, soon becoming very flexuose twisted up and resembling a capitulum: calyx-segments long, subulate, forming a short hooked point to the flower-hud during aestivation: vexillum not striped: legume marked with numerous close parallel transverse veins, terminated by the hooked base of the style, 2-seeded.

1 A branch in flower and fruit natural size--2 a flower--3 the same dissected--4 stamens--5 anthers--6 ovary two seeded--7 a legume--8 the same opened seed *in situ*--9 a seed detached--10 the cotyledons, the testa removed--11 one cotyledon shewing the embryo--all more or less magnified.

296. *Trianthema decandra* (Linn.) annual: stems diffuse, prostrate, glabrous or pubescent on the upper side: leaves elliptic, obtuse or acute, petioled, one of each pair a little larger than the other: flowers several, pedicelled on a short peduncle, accompanied with scarious bractes and bracteoles: sepals membranaceous on the margin: stamens 10-12: style bipartite: capsule 4-seeded, with a spurious dissepiment; lid slightly 2-lobed at the apex, nearly closed below, nut-like, and containing 2 seeds.

1 Flowering branch natural size--2 a flower forcibly expanded--3 ovary--4 stamen--5 ovary cut transversely--6 ovary cut vertically--7 a capsule cut vertically--8 cut transversely--9 a seed 10 the same cut vertically shewing the embryo curved round the farinaceous albumen.

297. *Ormarcarpum sennoides* (DC.) young shoots, petioles, peduncles, and calyx, covered with soft glutinous hairs: leaves unequally pinnate; leaflets alternate, 4-6 pair, obovate, retuse, slightly mucronulate: calyx evidently bilabiate: stamens equally diadelphous (5 and 5): legume 2-5-jointed: joints striated, armed with minute prickly warts.

1 A branch in flower and fruit--2 a dissected flower, copied from Roxburgh's drawing.

298. *Desmodium diffusum* (DC.) herbaceous, procumbent, diffuse, branched: branches 4-5-angled, hispidly pubescent: leaves trifoliate; leaflets oval, pubescent on both sides: stipules large, foliaceous, auricled and stem-clasping: racemes terminating every branch, very long: bractes small, lanceolate, 2-3 together: flowers in pairs or threes: legumes ascending or nearly erect, 5-6-jointed, notched on both sutures, hispid with short hooked hairs; joints orbicular, tumid in the middle when mature: seeds oval, compressed, with the hilum at one of the narrow ends.

1 branch in flower and fruit--2 a dissected flower--3 a legume--copied from Roxburgh's drawing.











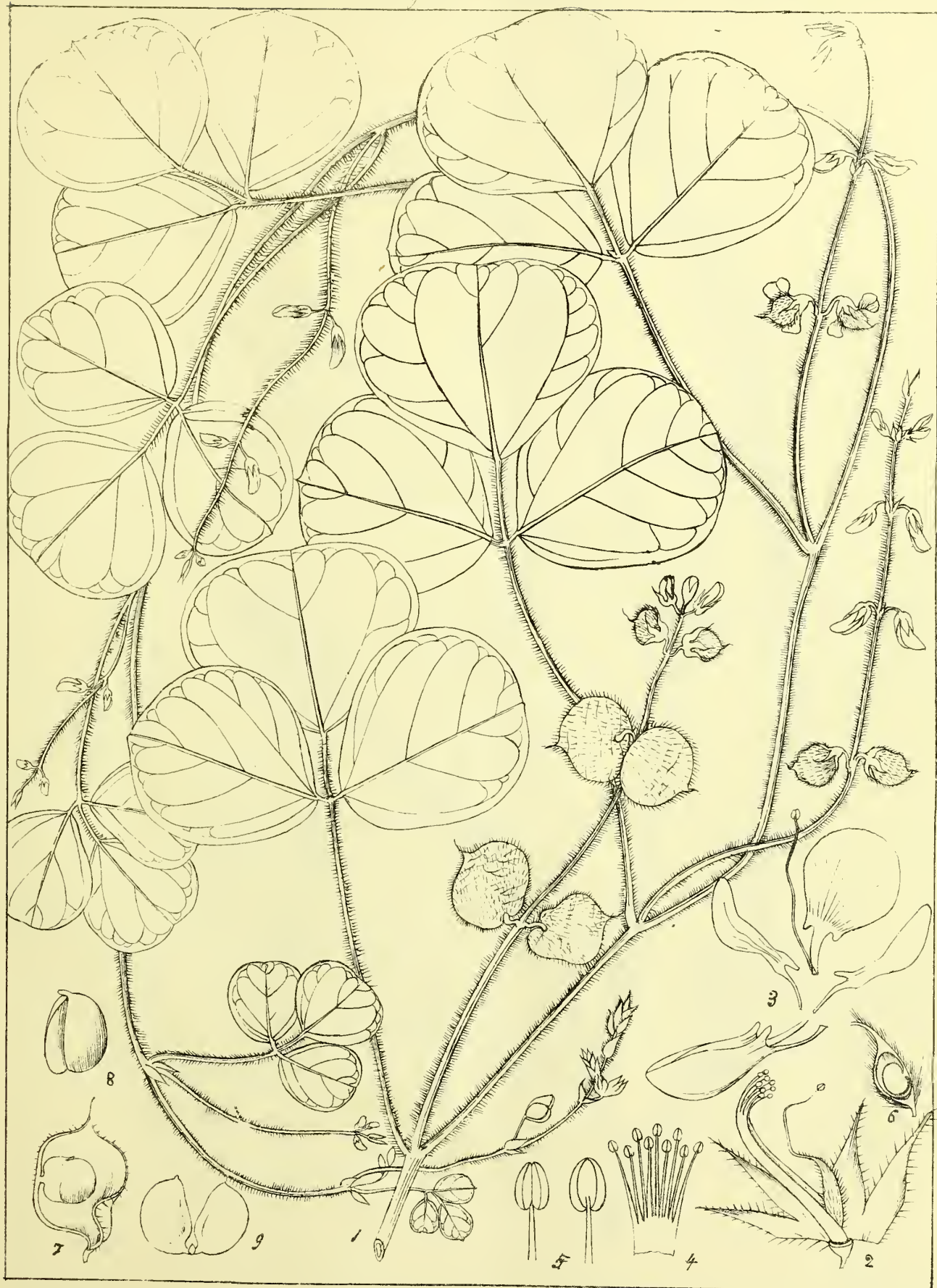






*Lizzaphus glabrata* (Heyne)









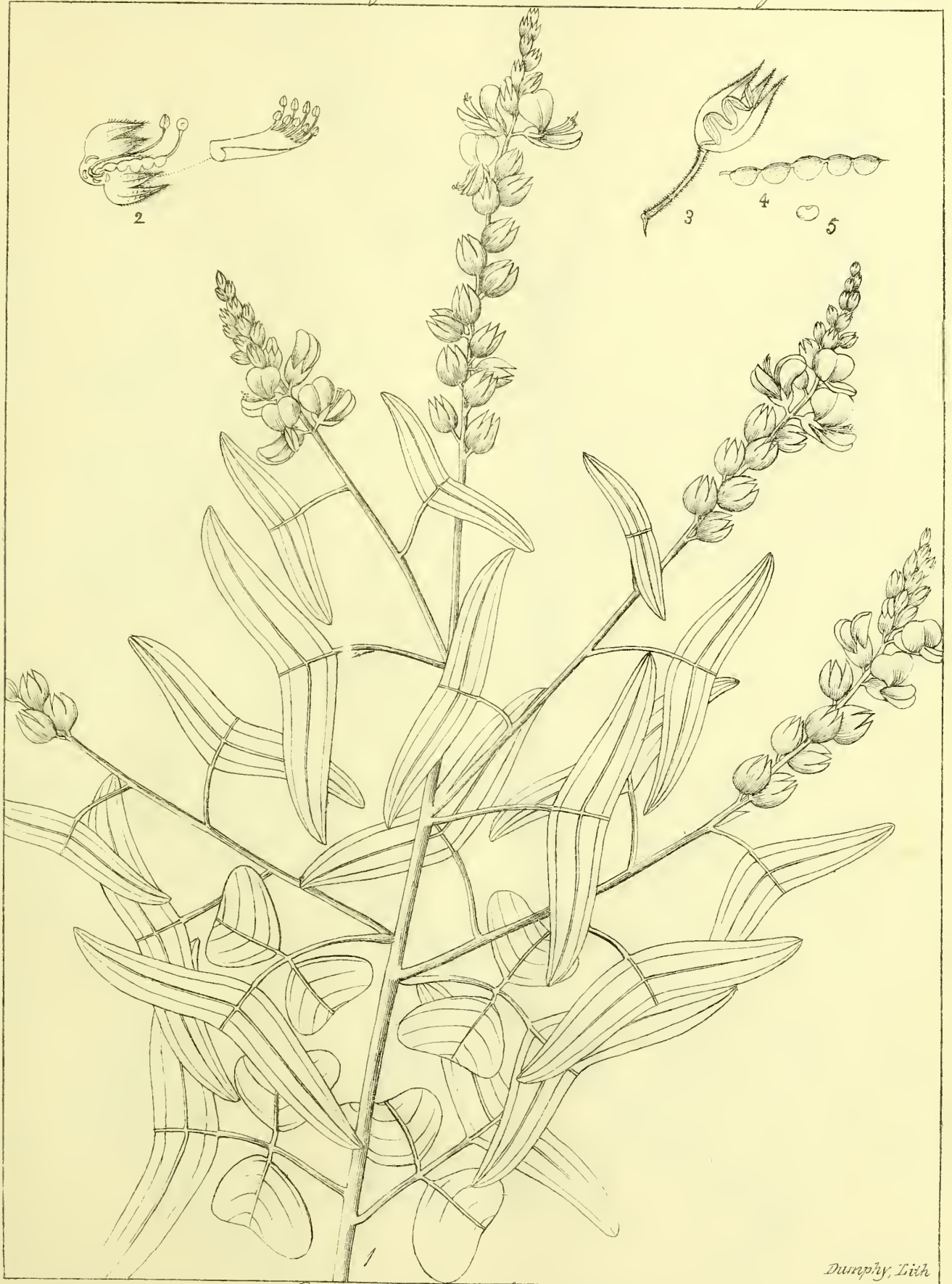
*Roxburghiana.*



Dumphy, Lith.

*Uraria hamosa* (Wall.)  
*Hedysarum hamosum* (Roxb.)



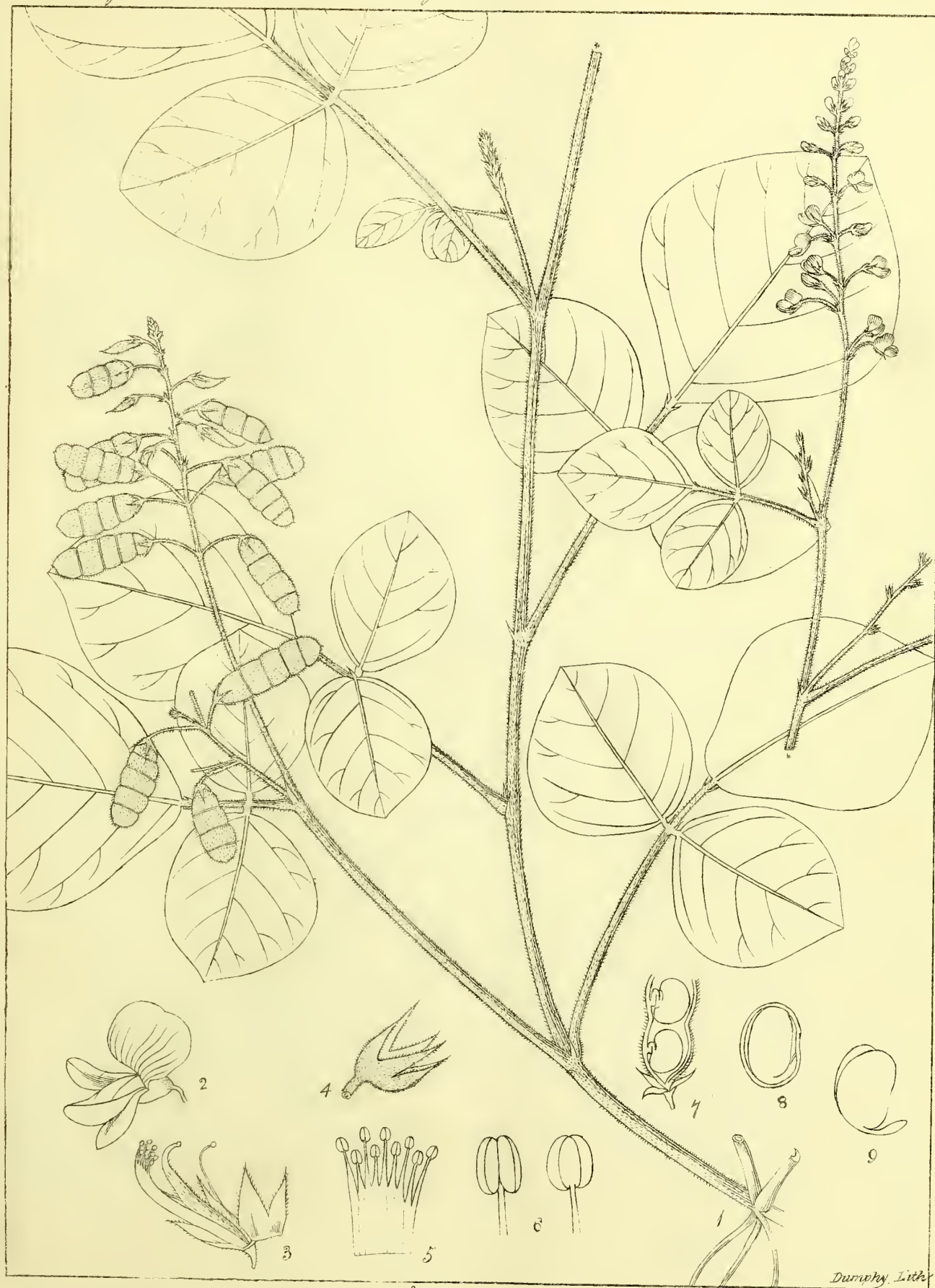


Dunphy, Lith

*Lourea Vespertilionis* Desv.  
*Hedysarum Vespertilionis* (Roxt.)







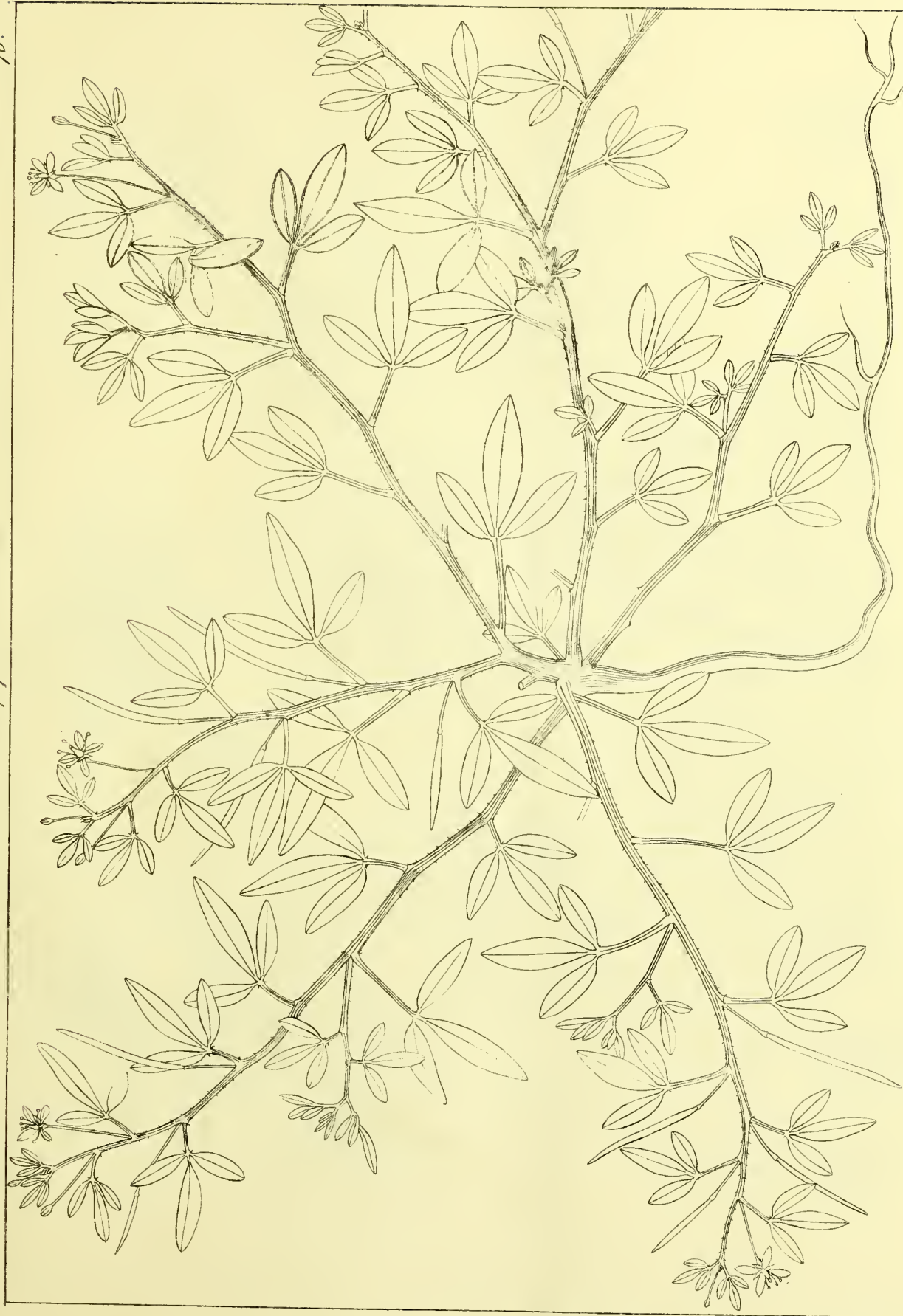
Dissect: Faingrah, del.

*Pseudarthria viscida* (W & A.)  
*Hedysarum viscidum* (Roxb.)

Dumphy, Lith.



*Capparidæ.*



Bungard del.

Dumphy, Lith.

*Cleome aspera* (Horn)

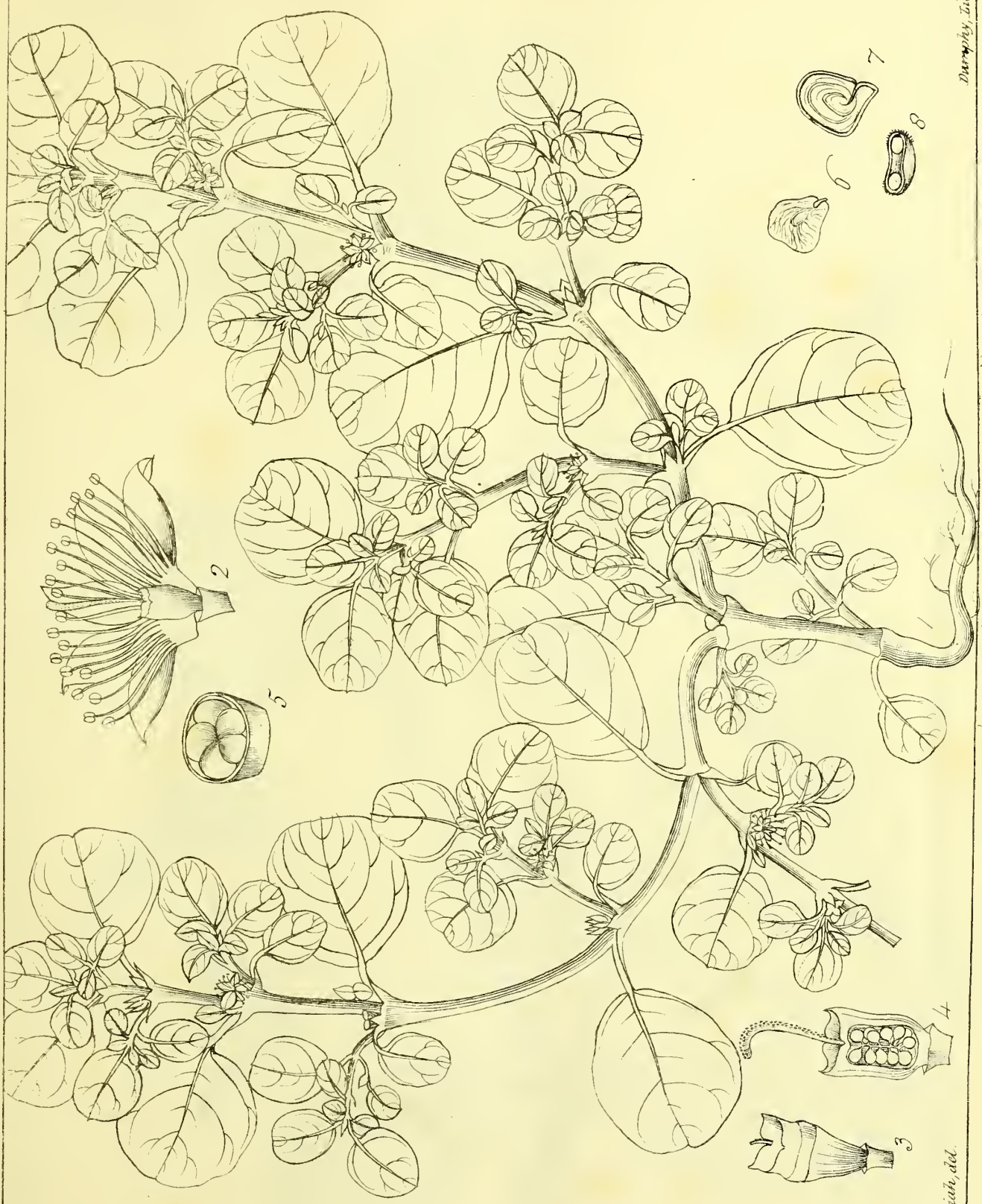
{ ram.

*Molay varenayphendoo*





*Portulaca*



Frangia, del.

Murphy, lith.

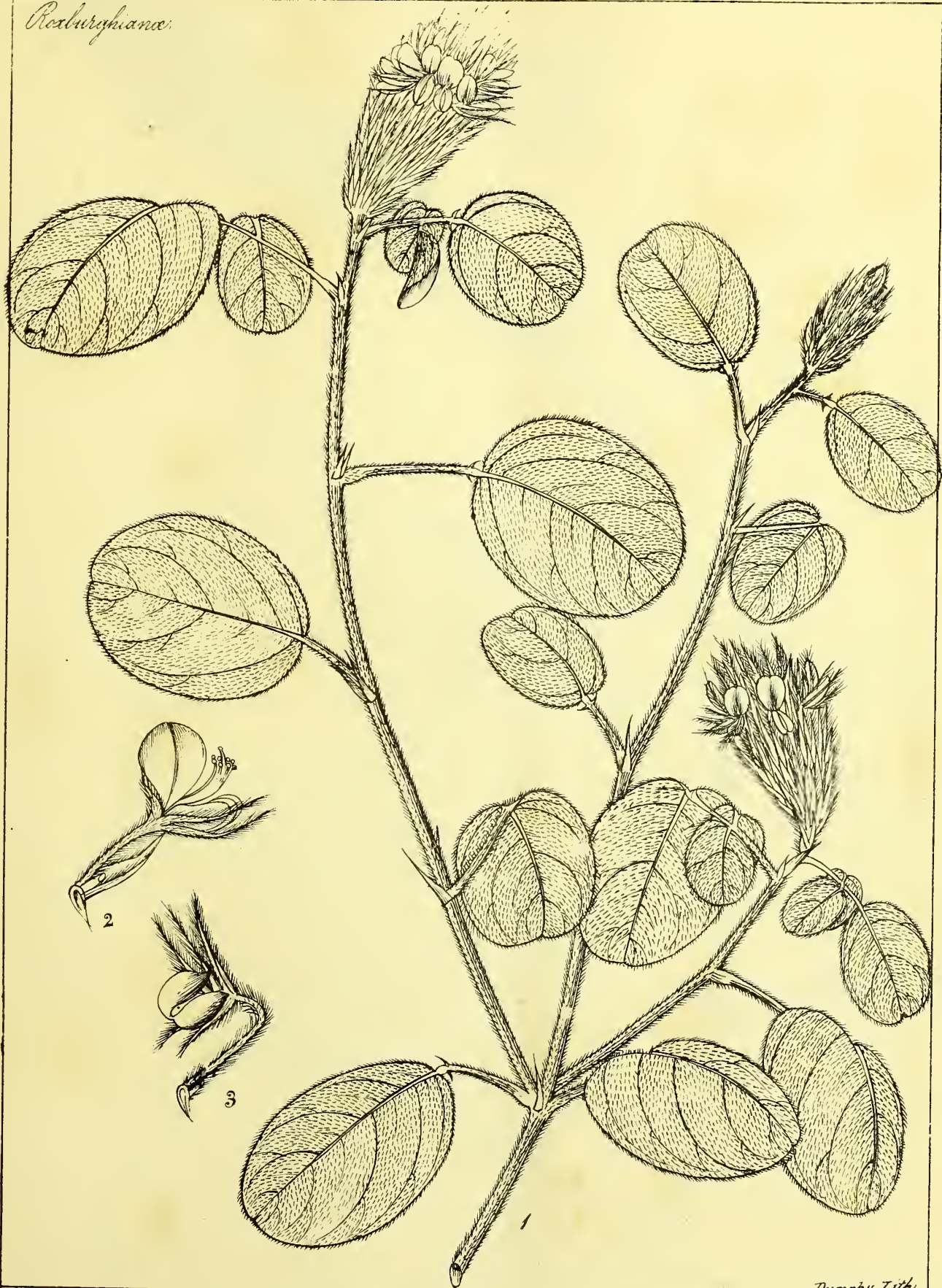
*Trianthema coccinata* (Poeb.)

*Mocharanthus pauciflorus* { Swm. }  
*Andragone* { Kl. }





*Roxburghiana.*



*Dumphy, Lith.*

*Uraria lagopoides* (D.C.)  
*Hedysarum lagopoides* (Roxb.)







*Uraria alopecuroides.*  
*Hedysarum alopecuroides* (Roxb.)



*Roxburghiana*



*Dumphy, Lith.*

*Desmodium biflorum* a  
*Hedysarum reptans* (Roxb.)





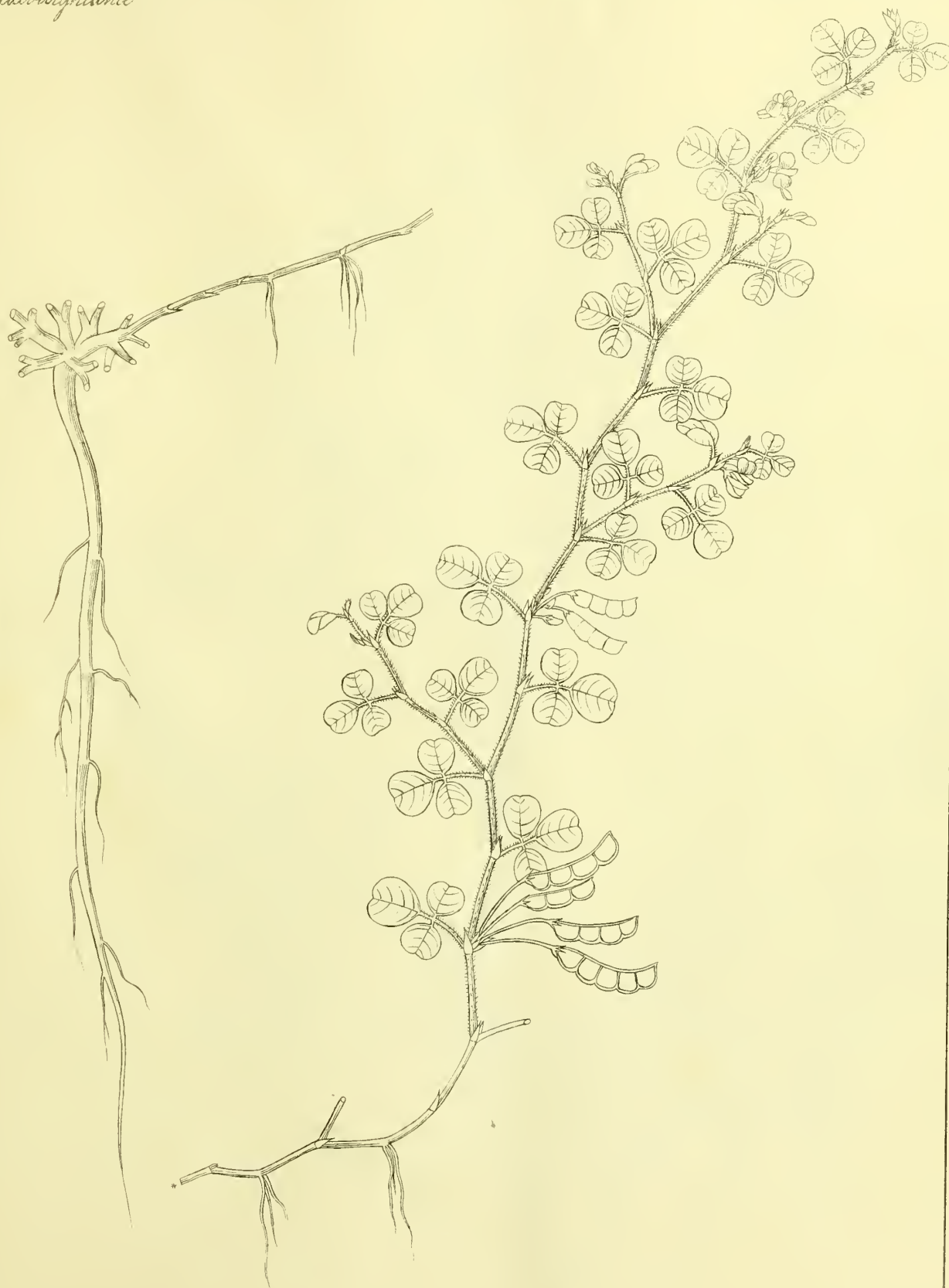
*Papilionacea.*

*Leguminosa.*

*Hedysarum.*

$\frac{292}{706}$

*Roxburghiana.*

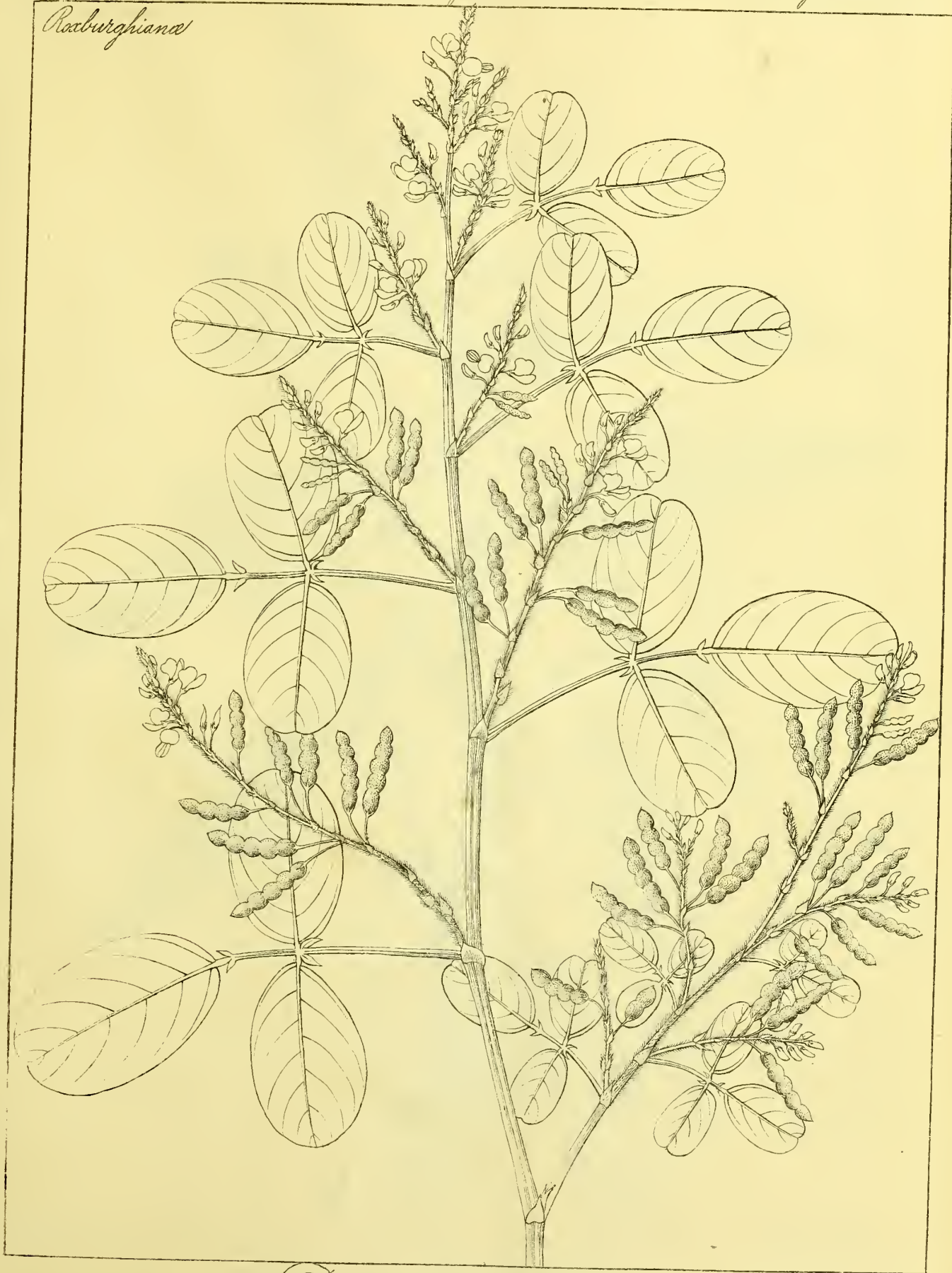


*Murphy, Lith.*

*Desmodium biflorum* D. C. B.  
*Hedysarum biflorum* (Roxb.)



*Roxburghianae*



*Desmodium quinqueangulare*  
*Hedysarum quinqueangulatum* (Roxb.)

*Dumphy, Lith.*





*Papilionacea.*

*Leguminosae.*

*Hedysarea*  $\frac{294}{701}$

*Roxburghiana.*

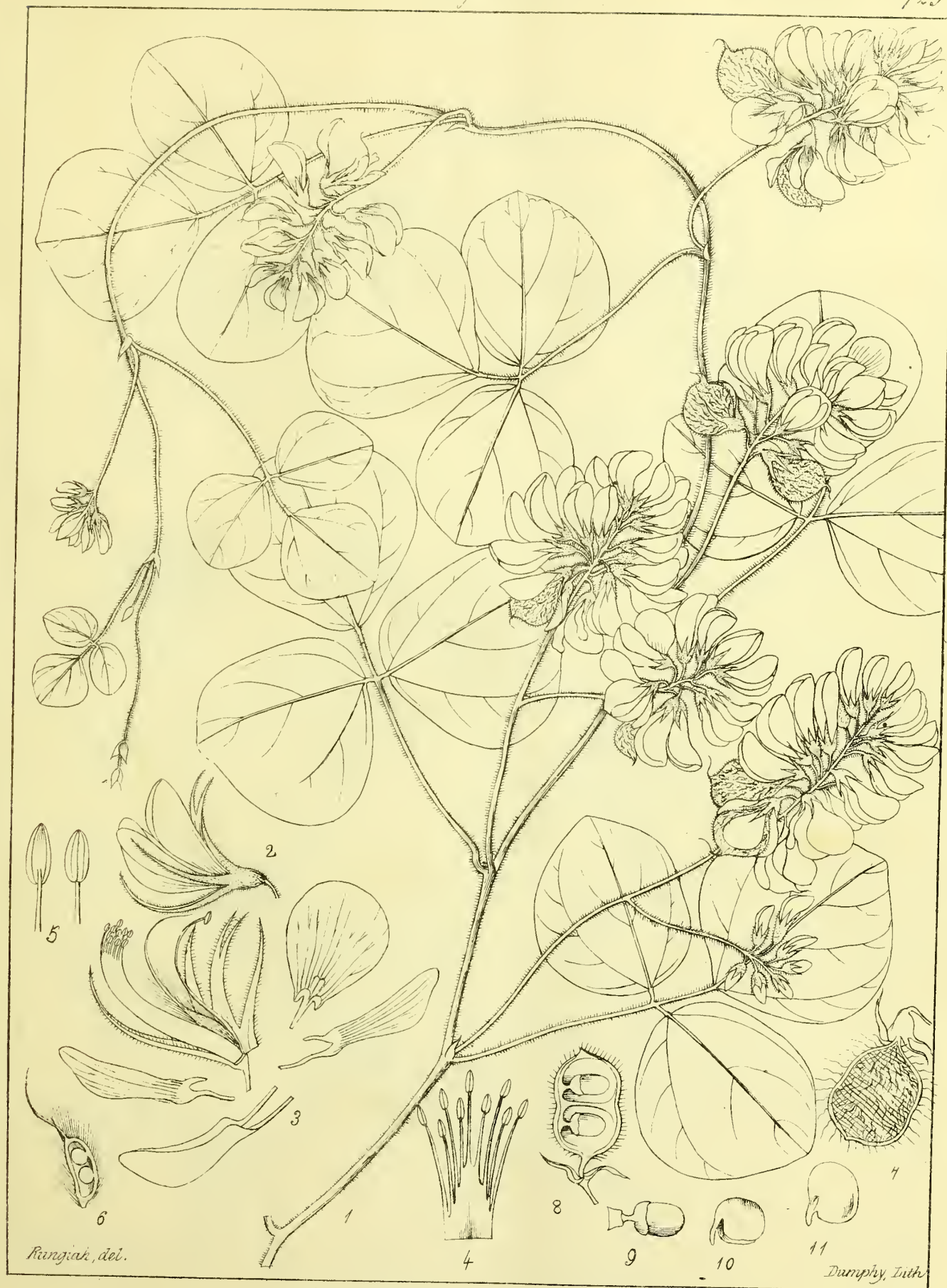


*Dumphy Lith.*

*Desmodium gyrans* (D. C.)  
*Hedysarum gyrans* (Roxb.)

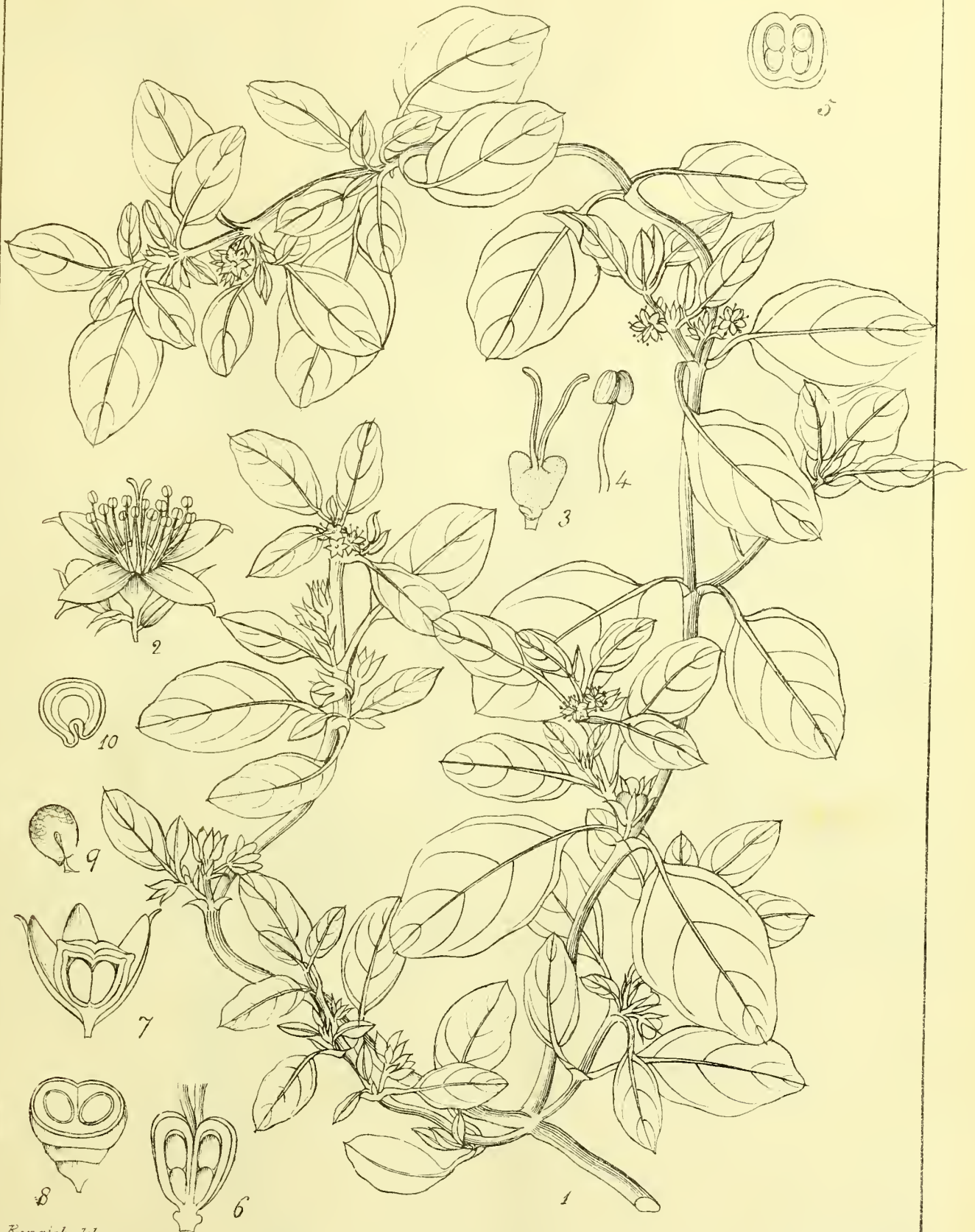






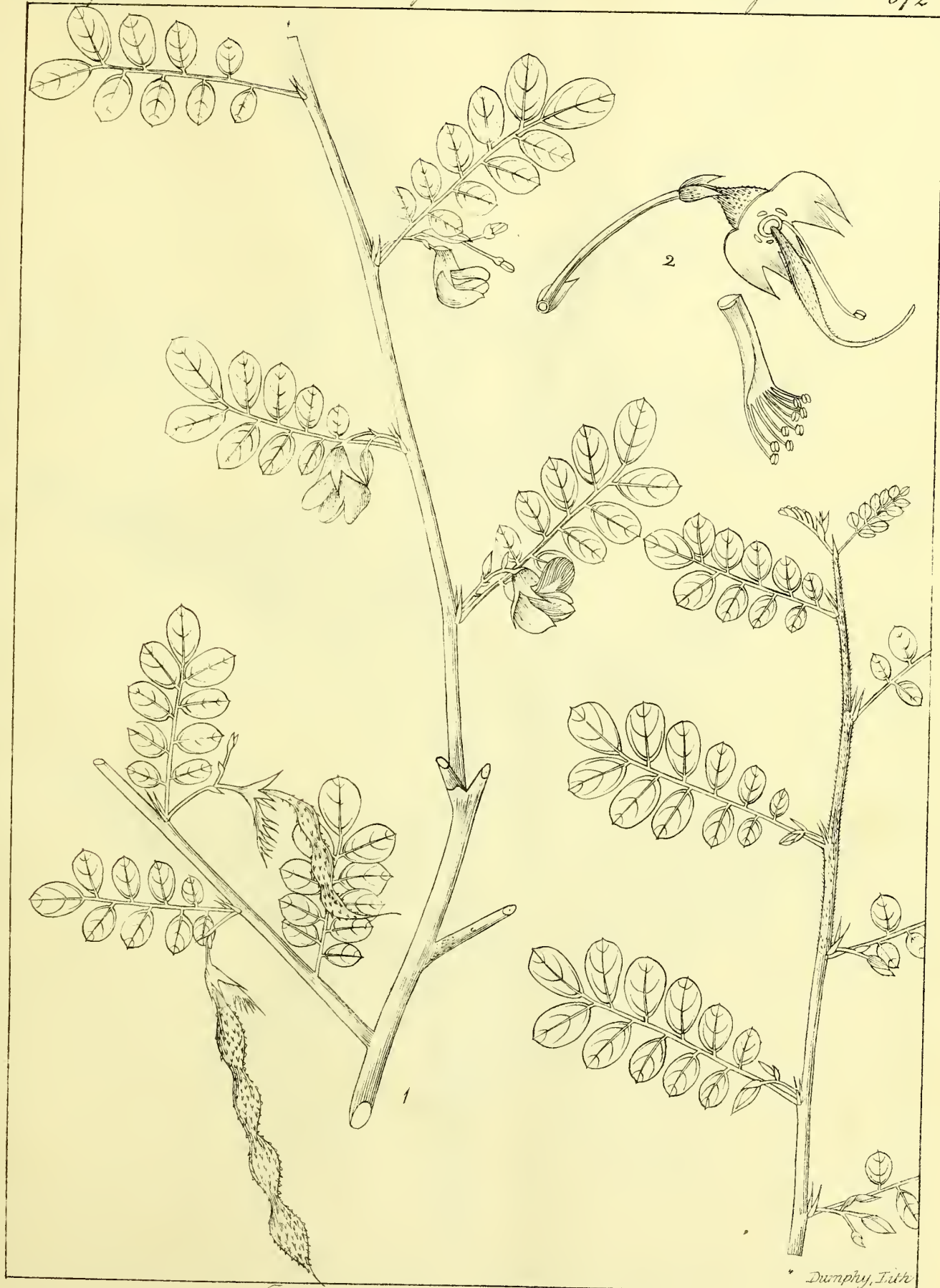






*Trianthema decandra* (Linn.)





\* Dumphy, Lith.

*Crimocarpum sennoides* (D.C.)  
*Hedysarum sennoides* (Roxb.)





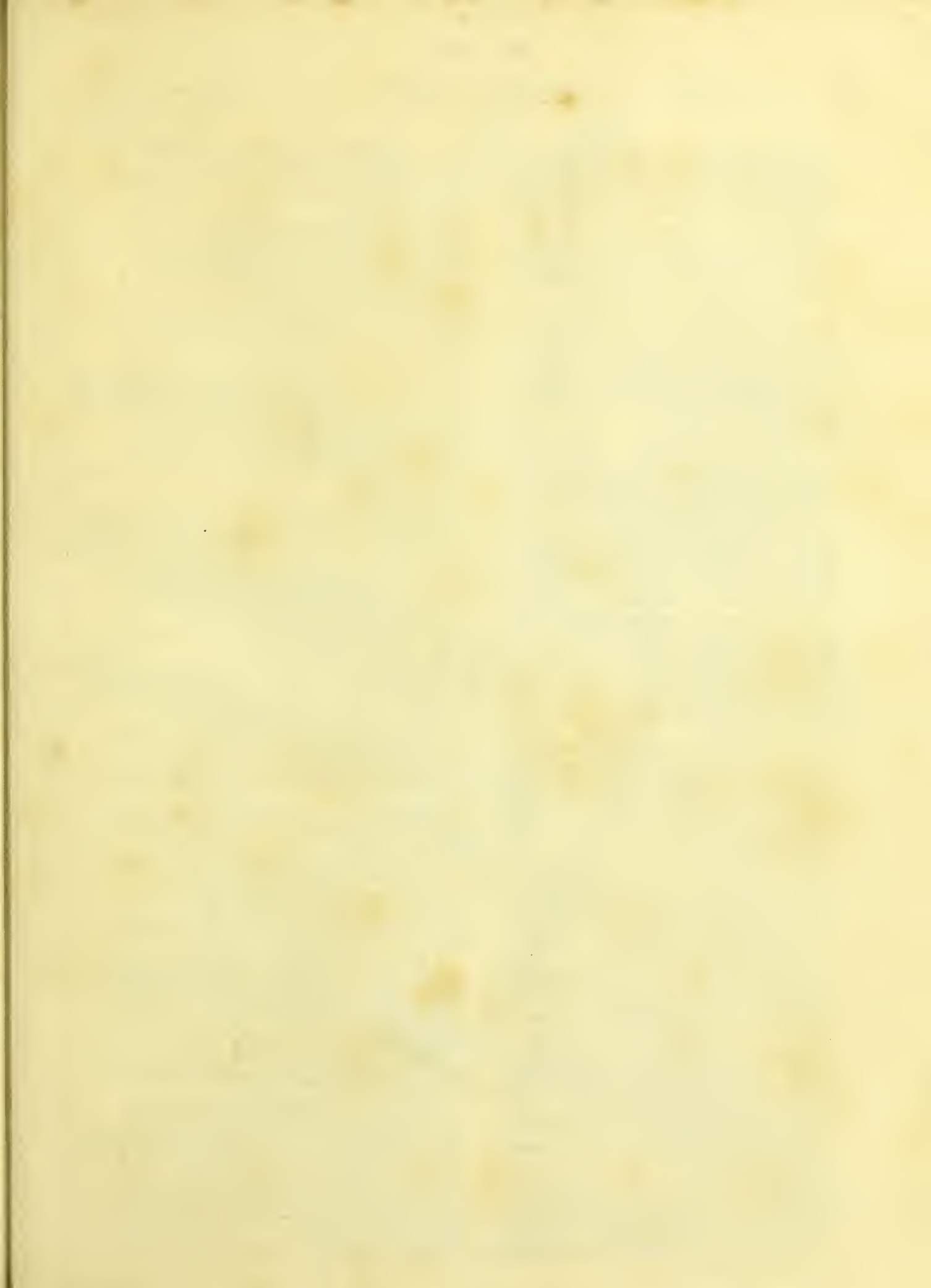
*Roxburghiana.*



*Desmodium diffusum* (D.C.)  
*Hedysarum auriculatum* (Roel.)

Dumphy, Lith.







## EXPLANATION OF PLATES.

299. *Aschynomene aspera* (Linn.:) perennial, herbaceous, erect, floating, spougy, sometimes slightly branched and diffuse, usually glabrous: leaflets 30 to 40 pairs, linear, obtuse: racemes axillary, few-flowered, the peduncles and pedicels hispid with short horizontal bristly hairs: corolla much longer than the calyx, both a little hairy: legumes long-stalked, 4-7 jointed, covered when mature with prickly tubercles on the middle of each joint, margins thickened, striated and crenulated.

1 a flowering stem—2 a dissected flower—3 a legume.

300. *Vachellia Farnesiana* (W. & A.) 1 a flowering branch natural size—2 a flower—3 the same calyx and corolla opened to show the ovary—4 stamens—5 pollen—6 ovary cut vertically—7 cut transversely—8 legumes natural size—9 cut transversely—10 cut longitudinally—11 a seed—12 cut transversely 13 the cotyledons testa removed all with the exception mentioned more or less magnified.

301. *Loranthus amplexifolius* (DC.:) glabrous: branches terete: leaves opposite, sessile, orbicular or ovate, obtuse, cordate at the base, coriaceous: racemes axillary, solitary, many-flowered, erect or spreading, simple, shorter than the leaves: flowers (purple) shortly pedicelled, often drooping: bractea solitary, lateral, concave, orbicular, close to the ovary: calyx-limb cup-shaped, entire: corolla long, infundibuliform, gibbous on one side, curved: limb before expansion swollen at the base, constricted above it, oblong upwards, splitting into 5 linear, spatulate recurved unilateral segments, one of the fissures twice as long as the others: filaments sprinkled with minute bristles, anthers linear: berry oblong.—Nearly allied to *L. longiflorus*, but distinct.

1 a flowering branch—2 the corolla split open—3 the ovary and style.

302. *Loranthus longiflorus* (Desr.:) glabrous: branches terete: leaves usually opposite, or sometimes alternate, petioled, from linear to oblong-lanceolate, or ovate obtuse, upper ones sometimes retuse or slightly cordate at the base, coriaceous: racemes axillary, solitary or in pairs, erect or spreading, simple, many-flowered, much shorter than the leaves: flowers (yellow) shortly pedicelled, often drooping: bractea solitary, concave, oblique, close to the ovary: calyx-limb entire: corolla long, infundibuliform, gibbous on one side, curved: limb before expansion swollen at the base constricted above it, oblong upwards, splitting into 5 linear, recurved, secund segments, one of the fissures twice as deep as the others: filaments sprinkled with short bristles: anthers linear: fruit oblong (red when ripe)—a variable species as regards the form of the leaves, but all distinguished by the constricted throat of the corolla.

1 a flowering branch—2 a dissected flower.

303. *Loranthus toniceoides* (Linn.:) glabrous: branches terete, young ones slightly 2-edged: leaves opposite, petioled, ovate, or oblong-lanceolate, acuminate: peduncles opposite, axillary, solitary, about equal to the petiole, bearing at the apex a few and somewhat capitate or several and more or less spiked sessile flowers: bractea 3 at the base of each ovary, roundish, acute, concave: margin of the calyx between tubular and cup-shaped entire: corolla elongated, tubular, curved, slightly gibbous on one side, several times longer than the ovary and calyx, equally cleft into 6 (or sometimes 5) cuneate-linear spreading lobes: anthers linear.

1 a flowering branch—2 a dissected flower—3 bractea calyx and style.

304. *Loranthus capitellatus* (W. & A.) glabrous: branches terete, young shoots compressed and two-edged: leaves opposite, oblong lanceolate, obtuse, attenuated at the base into a short petiole: petiole sharply keeled at the back: flowers sessile, capitate, few together, each with three roundish acute concave bractea at the base: heads axillary, sessile: limb of the calyx between tubular and cup-shaped, entire: flower-buds gibbous and nearly terete at the base, 6 angled upwards: corolla-tube short infundibuliform, about a half longer than the ovary and calyx: limb cleft into 6 equal cuneate, linear spreading segments as long as the tube.

1 Flowering branch—2 a dissected flower—3 calyx and ovary, the calyx partially removed to show the ovary.

305. *Loranthus Candolleanus* (W. & A.) when young all over greyish with very short starry pubescence: branches terete: leaves alternate or fasciated in pairs, narrow-oblong, or obovate obtuse, cuneate at the base, petioled, at length nearly glabrous on both sides: umbels peduncled: flowers 2-5, shortly pedicelled, clothed with short tomentum: bractea about the length of the ovary and close to it, unilateral, obtuse: calyx limb 5 or several toothed: corolla tubular, gibbous on one side above the middle, curved, 5 cleft, segments unilateral, linear, one of the fissures the longest, anthers linear.

Obs. The specimen figured differs somewhat from those originally described, but not sufficiently to constitute it a distinct species—the species is very nearly allied to *L. tomentosus* from which it principally differs in the size of the bractea, a point which I shall illustrate in my figure of the latter species.

1 a flowering branch—2 the corolla split open—3 the ovary crowned by the calyx with its bractea.

306. *Loranthus lageniferus* (R. W.) glabrous branches terete, leaves opposite, petioled, elliptic—oblong, obtuse, rounded at the base, peduncles fasciated leaving at the apex a large, complicate 4-5 lobed involucre: flowers 4-5 in the bottom of the involucre calyx membranous repandly 5 toothed: corolla tubular pulverulent, twice the length of the involucre, 5 cleft, annular towards the base of the segments: segments linear, reflexed, anthers erect.

Obs. This new and curious species is a native of Malabar extending as far north as Bombay from the neighbourhood of which I have specimens communicated by the late Mr. Graham.

1 a flowering branch—2 an involucre split open, showing the position of the flowers within—3 a corolla split open.

307. *Hedera trifoliata* (W. & A.) shrubby, unarmed, glabrous: leaves pinnately trifoliate: leaflets ovate with a narrow acumination, equal and slightly acute at the base, somewhat closely hirsute-serrate, scarcely coriaceous, petioled: terminal petiole 4-5 times longer than the others: panicle corymbiform, bracteate: flowers umbellate, numerous on each umbel: calyx 5 toothed: corolla calyptriform, ovoid: stamens 5: styles united into one: berry 5 celled.

1 Flowering branch—2 an unexpanded flower—3 the ovary and stamens after the separation of the corolla—4 the calyptriform or lid-like corolla detached.

308. *Ionidium suffruticosum* (Ging.) stems pubescent, branched near the base: branches nearly simple: lower leaves the broader, upper ones oblong-lanceolate, mucronate, more or less pubescent, toothed or serrated, stipules subulate: sepals narrow, acuminate, strongly keeled: lower petal nearly orbicular, obtuse, long unguiculate, capsule nearly globose: seeds 9, obovoid, shining (whitish) longitudinally furrowed.

Obs. The form published under this name in the Illustrations is more justly referable to *I. enneaspermum* on which account I have given this figure of the normal form. Perhaps they are only varieties of one species.

1 A flowering plant—2 a flower partially dissected—3 the capsule after dehiscence—4 the same cut transversely before dehiscence.

309. *Stylocoryne Webera* (A. Rich.) shrubby, glabrous: leaves lanceolate-oblong, shining: corymbs trichotomous, terminal: calyx limb 5 cleft: tube of the corolla short, about twice the length of the calyx-tube, slightly widened and bearded at the mouth: segments of the limb recurved, oblong, villous at their base along the middle, about twice as long as the tube: style slightly hairy: stigma with 10 longitudinal somewhat winged angles: berry 2 celled, with 4-8 seeds in each cell.

1 Flowering branch—2 calyx divided and thrown to one side to show the style and inferior ovary—3 the corolla opened to show the hairy throat and insertion of the stamens—4 a berry cut transversely.

310. *Griffithia fragrans* (W. & A.) This being only the species of the genus no specific character can be given. The full generic character is given in our Prodromus. This figure is exceedingly characteristic of the plant as it appears in a dry and poor soil, but the section of the fruit fig-4 is most incorrect a circumstance unhappily overlooked until too late for remedy—A full and correct analysis of the generic character will be given in the next number in connection with some few other allied genera.

311. *Corchorus capsularis* (Linn.) annual: leaves oblong, acuminate: capsules globose, truncated, wrinkled and muricated, 5 celled; seeds few in each cell, without transverse septa.

1 Flowering branch with a capsule in the fork—2 a flower fully expanded—3 a stamen—4 the capsules cut transversely.

312. *Hedyotis racemosa* (Lam.) annual or biennial, diffuse, glabrous: leaves elliptic oblong, or lanceolate, obtuse or acute, attenuated at the base: flowers pedicelled, disposed in long-peduncled naked alternate-axillary and terminal racemes: the partial peduncles 1-3 flowered: limb of the calyx 4-partite; segments triangular-ovate, acute, in fruit distant with the sinus wide: capsule shortly turbinate, slightly marked with 4 acute decurrent angles.

1 Portion of a plant natural size—2 ovary and calyx—the corolla detached and split open to show the hairy throat and insertion of the stamens—3 ovary cut transversely all magnified.

313. *Indigofera linifolia* (Retz.) Perennial caespitose: leaves simple: legumes globular one-seeded. Roxb.

1 Portion of a plant in flower and fruit—2 stamens—3 keel furnished with a spur on each side—4 legume opened showing the seed in situ—5 a seed—Copied from Roxburgh's drawing.

314. *Indigofera trifoliata* (Linn.) I. prostrata Roxb. Perennial: leaves ternate: leaflets wedge-shaped, with glandular dots: racemes axillary, sessile, the length of the petioles: legumes reflexed, smooth, acute, from 6-8 seeded. Roxb.

1 Portion of a plant natural size—2 calyx opened to show the ovary and detached stamen—3 united stamens—4 keel of the corolla with its lateral spurs—5 a legume opened—Copied from Roxburgh's drawing.

315. *Indigofera trita* (Linn.) annual and biennial, erect, rigid: leaves ternate, leaflets obovate: racemes, axillary, sessile, many-flowered, legumes reflexed, straight, rigid, 4 sided, spinous, pointed, smooth. Roxb.

1 Flowering branch—2 calyx split open showing the ovary and detached stamen—3 united stamens—4 keel of the corolla spurred on each side—5 a legume—copied from Roxburgh's drawing.

316. *Indigofera echinata* (Willd.) stems prostrate: leaves simple, obovate dotted: racemes axillary: legumes crescent-shaped, with hooked bristles on the convex side, one-seeded.—Roxb.

1 Portion of a plant in flower and fruit—2 keel of the corolla—4 legume opened, shewing the solitary seed. Copied from Roxburgh's drawing.

317. *Stylocoryne monosperma* (W. & A.) shrubby, glabrous: leaves lanceolate—oblong, shining: corymbs trichotomous, with rather few flowers, terminal: calyx-limb cupulate, minutely 5 toothed: tube of the corolla elongated, infundibuliform many times longer than the limb of the calyx, pubescent on the inside: segments of the limb oblong, glabrous, about half the length of the tube: ovary with 2-3 ovules in each cell: style slightly hairy: stigma acute compressed, with a furrow along each side: berry (white and about the size of a small cherry) fleshy, 1 celled, 1 seeded: seed not angled.

1 Flowering branch—2 ovary style and stigma the calyx opened—3 corolla opened and the limb removed to show more clearly the form of the anthers—4 a cluster of young fruit natural size—5 one of them cut transversely magnified.

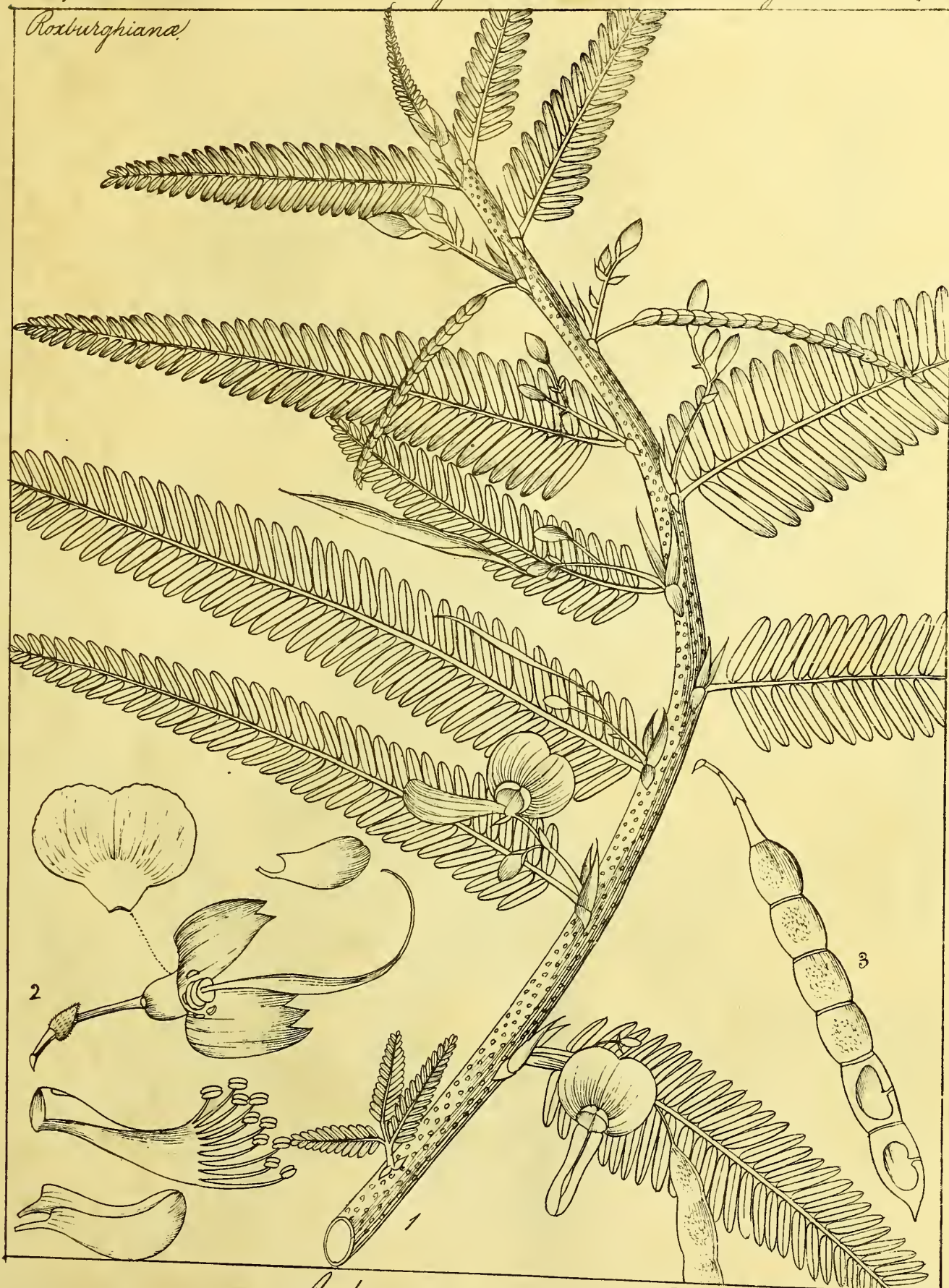
318. *Ixora nigricans* (Br.) shrubby, glabrous: leaves oblong-lanceolate, shortly petioled, shining on both sides, turning black by drying: stipules with a subulate point: corymbs trichotomous, large, open, flowers lax: calyx segments subulate, about the length of the tube: corolla (white) with the tube (three quarters of an inch long), slightly widened upwards: lobes oblong, slightly acute, recurved: filaments shortly exerted: style glabrous, considerably exerted, divisions of the stigma filiform, recurved: berries transversely oval.

Obs. Some points of the character does not accurately correspond with the figure, which may be accounted for by the former being taken from dried specimens, the latter from the fresh plant: the divisions of the stigma do not separate at first and the mature berry is globose and purple, not unlike a small black cherry, but changes in drying.

1 A branch in flower and fruit natural size—2 the corolla split open—3 the ovary style and stigma.



*Roxburghiana*!



*Aschynomene aspera* (Linn.)  
*Hedysarum lagenarium* (Roxb.)

Dumphy, Lith.

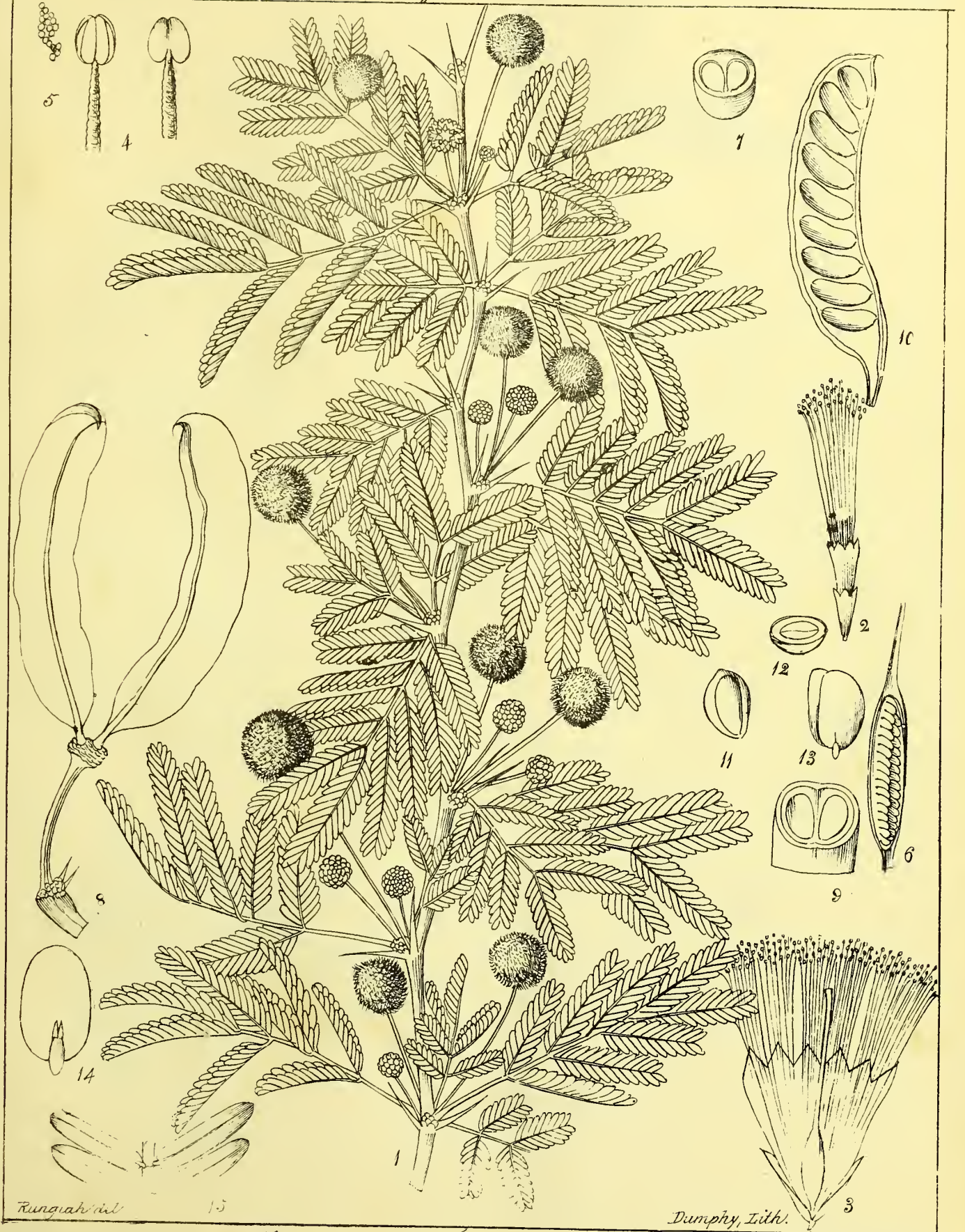




Mimoseae.

Leguminosae.

Acacieae  $\frac{300}{841}$



Rungiah, Ind.

Dumphy, Lith.

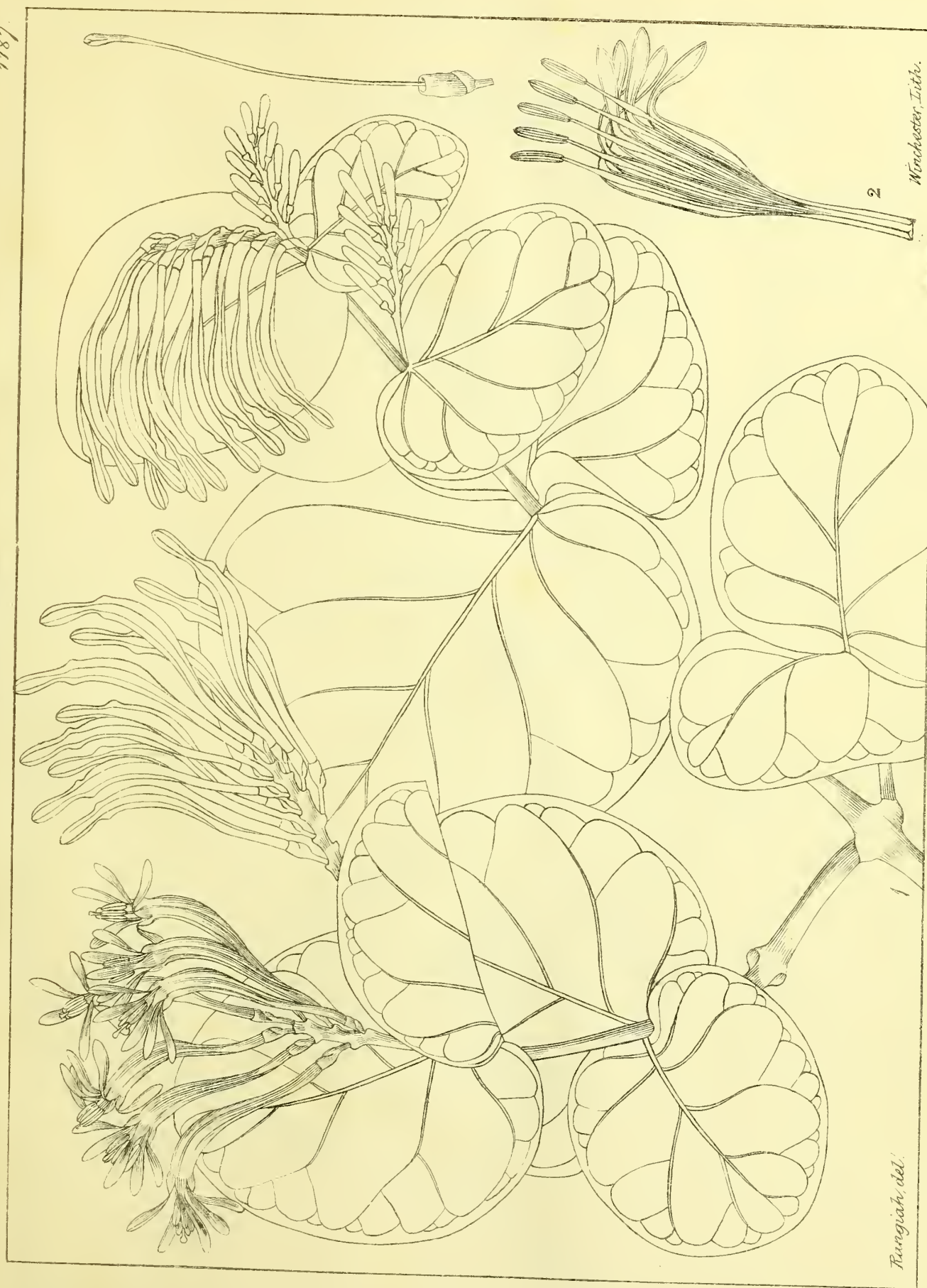
சுருவாலமரம் } Tam  
Curroovalamurum }

Vachellia Farnesiana (W & A)

நல்லதூவூச்செய் } Tel.  
Nullathoomoochetty }



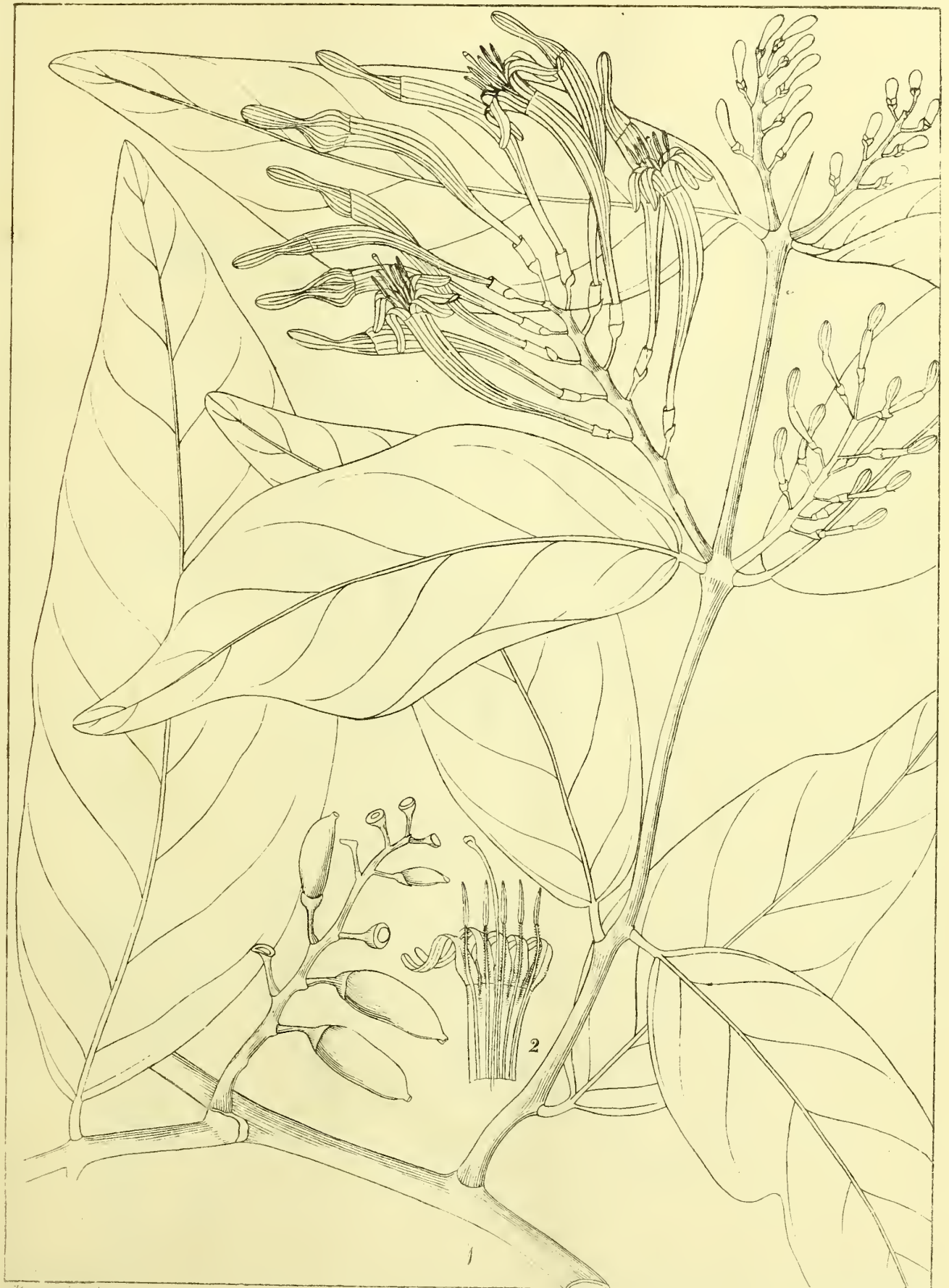




*Panathus complexipolus* (D.L.)

சங்கதம்மாநாதபுரம், தர்மபுரம்





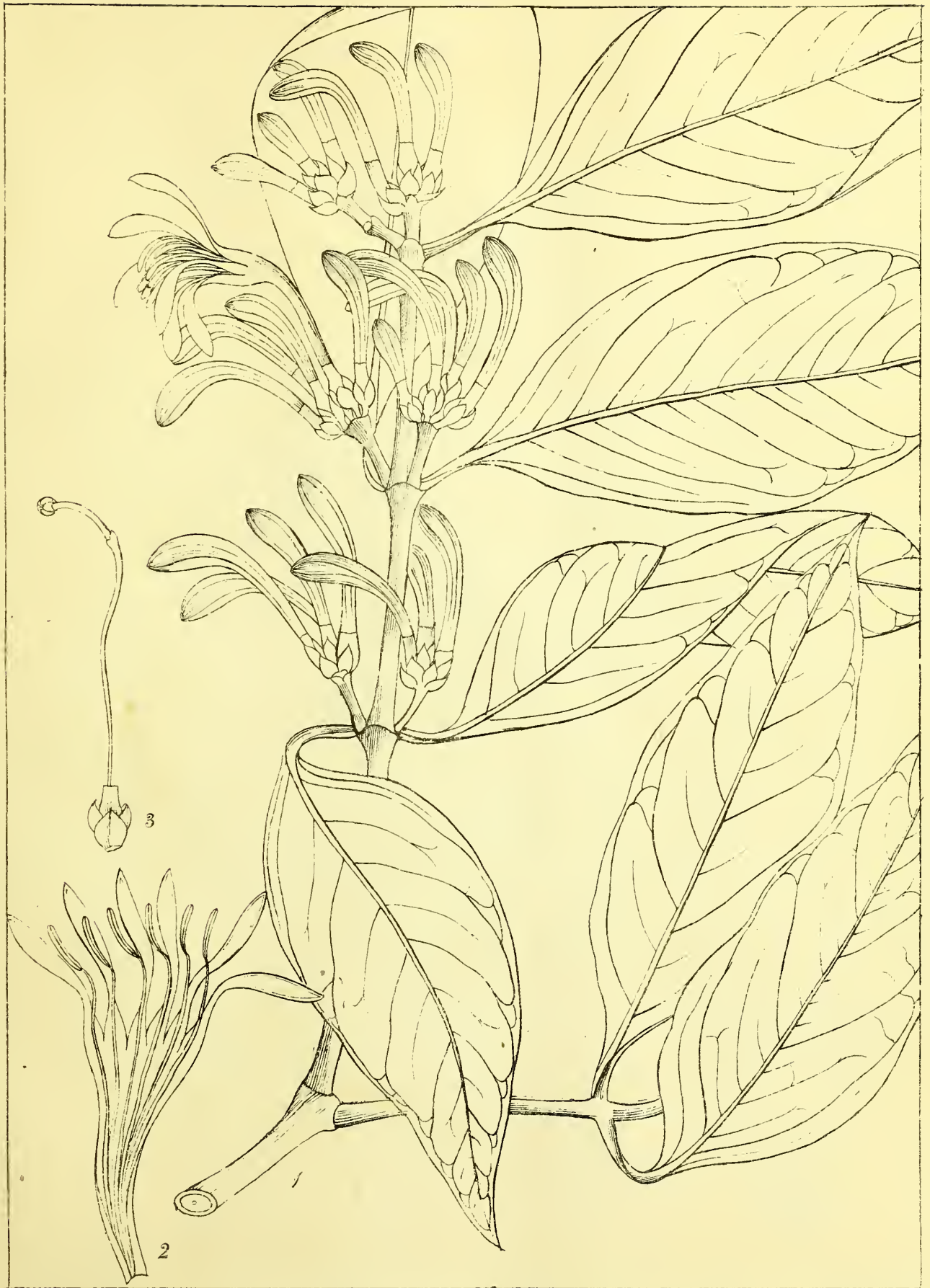
K. & A. del.

*Loranthus longiflorus* Desr.

Dunlop, Lith.











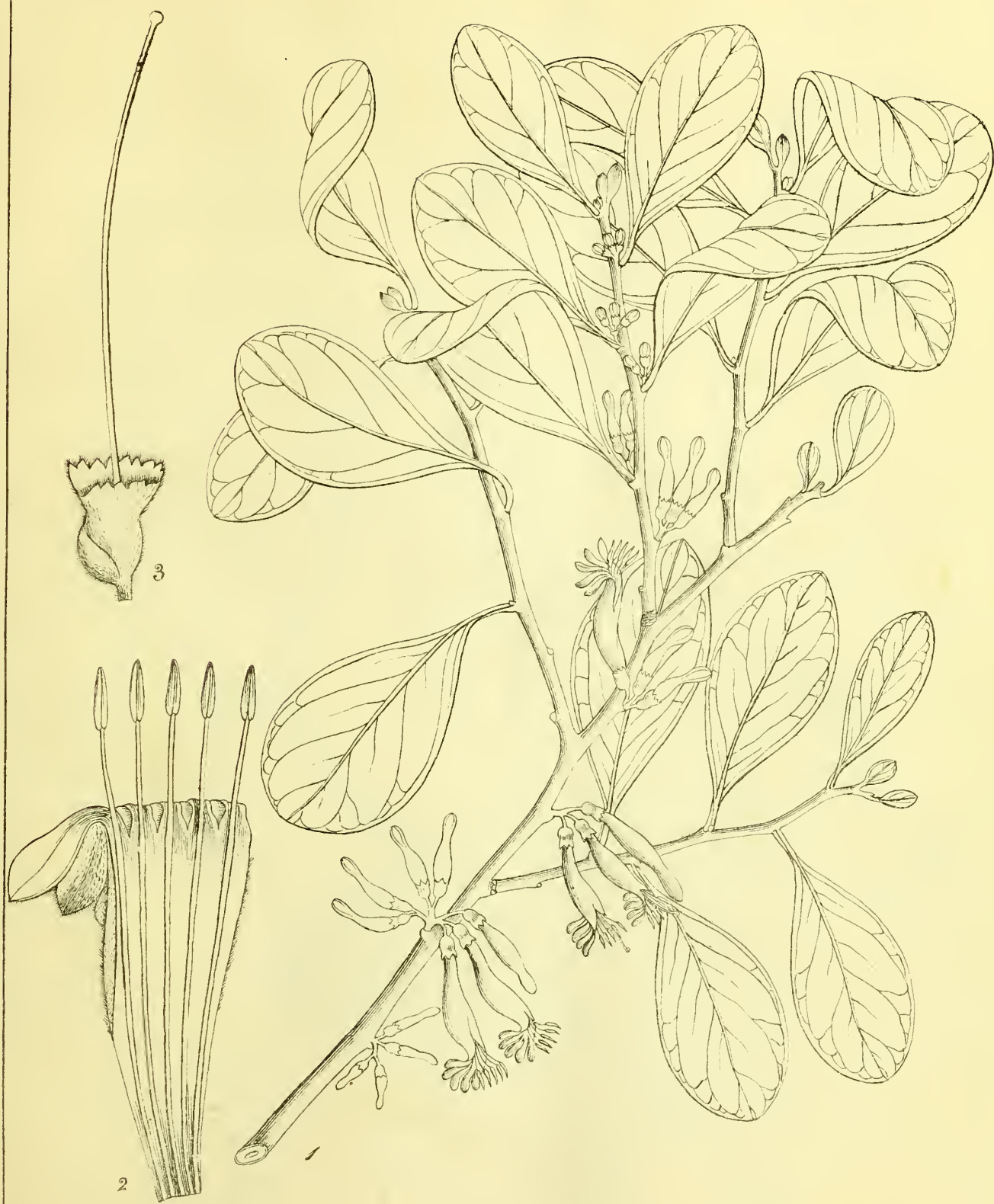
Rusgiah, del.

*Loranthus capitellatus* (W & A)

Winchester, Lith.







Rungiah del.

Dumphy, Lith

*Loranthus Candolleanus* (W & A.)

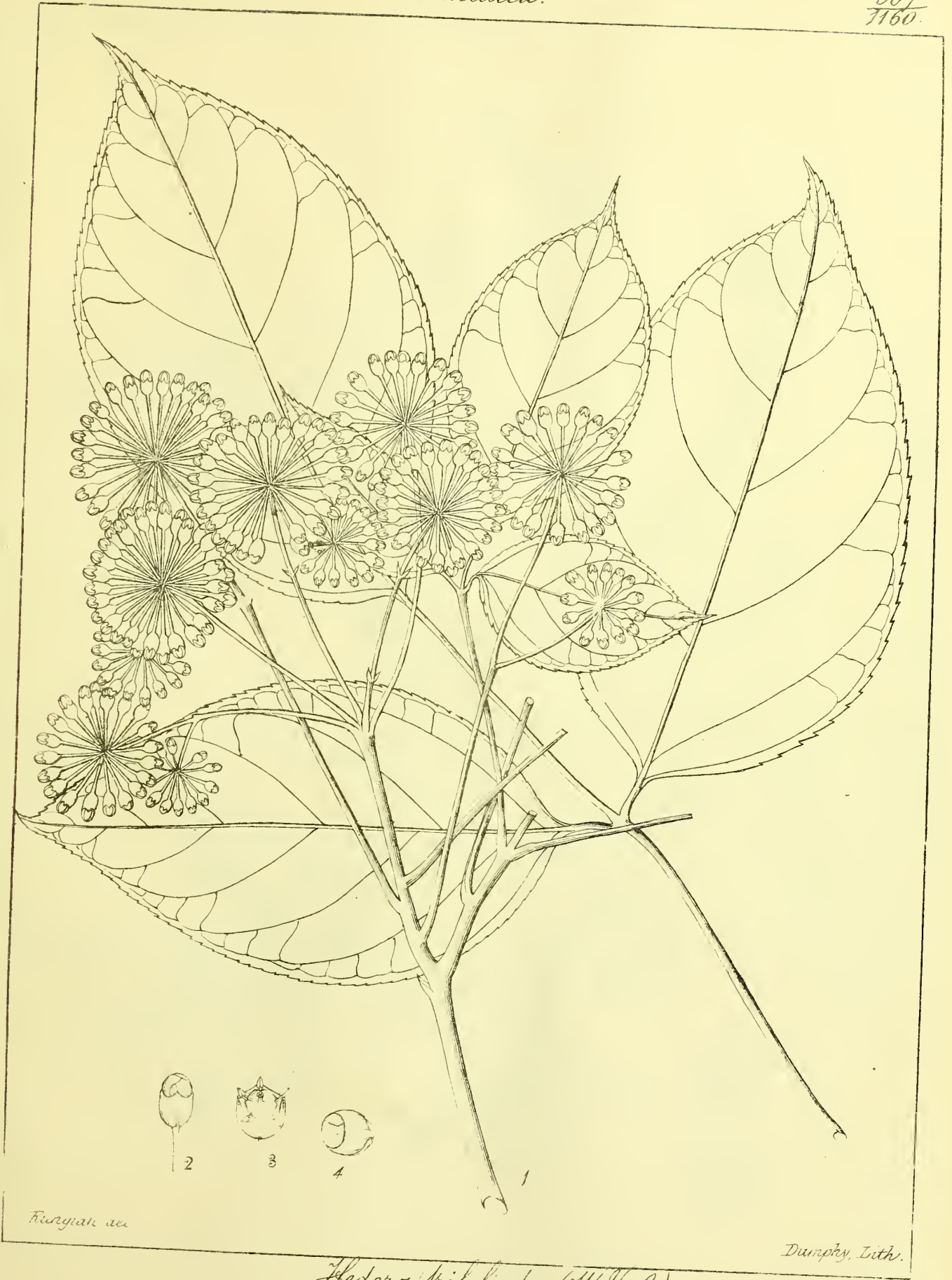




*Loranthus lageniferus* (Wight)







*Hieracium* var.

*Hedera trifoliata* (W & A)

Dumphy, Lith.





Rugayah, del.

Dumphy, Lith.

*Senecio suffruticosum* (Ging)

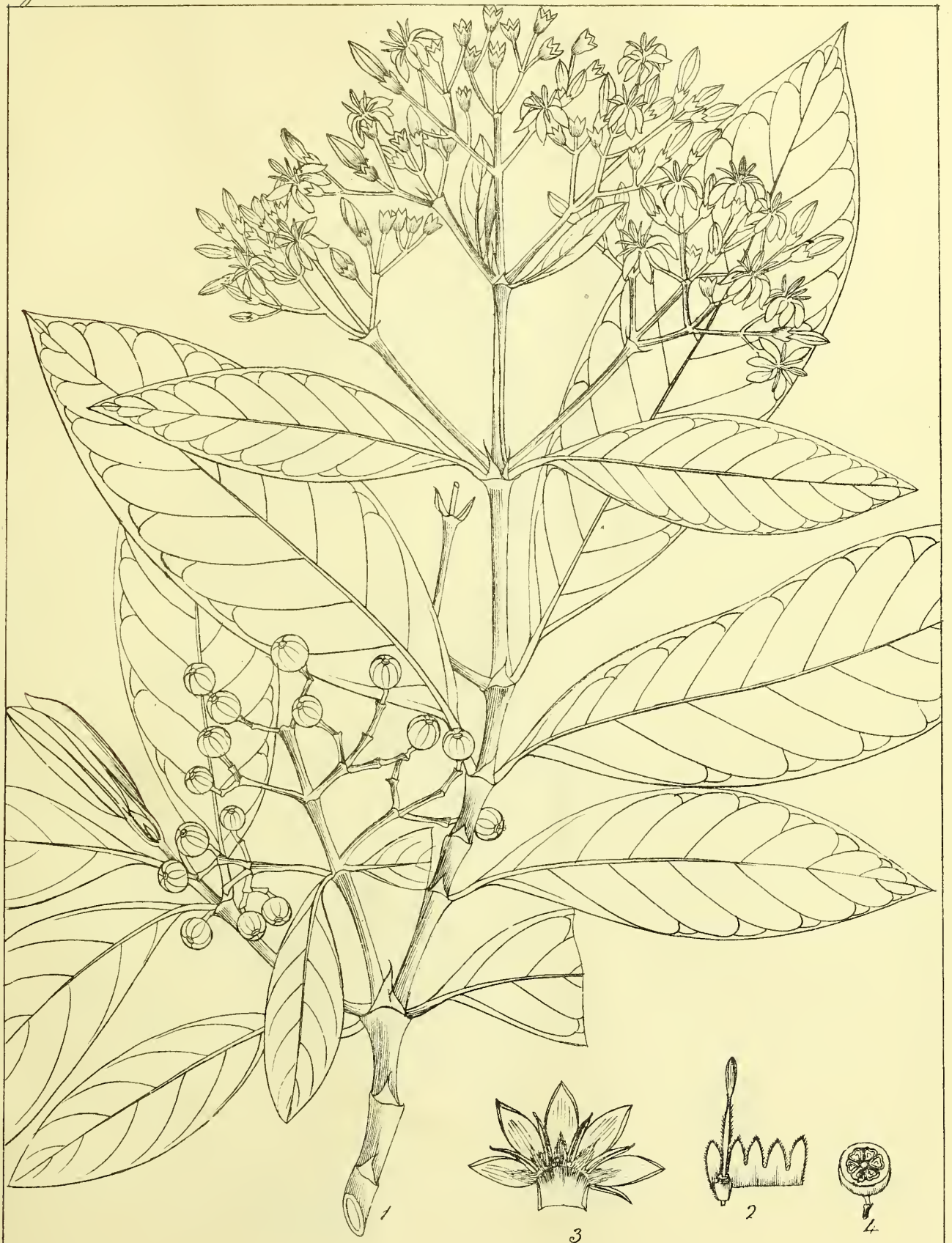




*Gardenieae.*

*Rubiaceae*

309  
1236



*Rungtiah/del.*

*Dunphy Lith.*

*Sylocoryne Webera (A. Rich.)*



*Gardenia*

*Rubiaceae*

310  
1235



1891.1.1.1

Dumort, Lith.

*Griffithia fragrans* (W & A.)







Rungtiah, del.

*Corchorus capsularis* (Linn.)

Thompson, Lith.





Rungtiah, del.

*Hedyotis racemosa* (Lam.)

Dumphy, Lith.



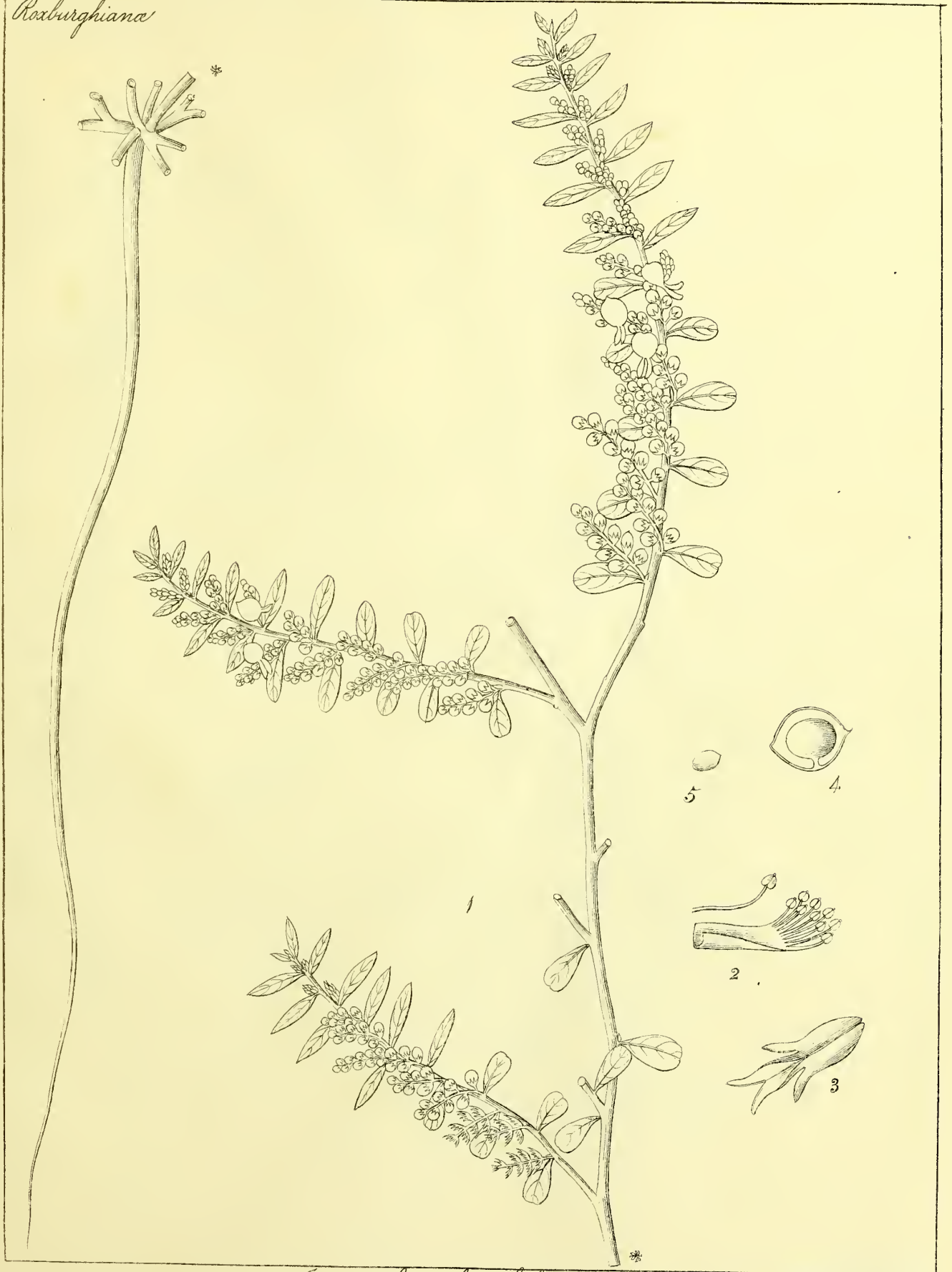


*Lotea*

*Leguminosa.*

$\frac{313}{618.}$

*Roxburghiana*

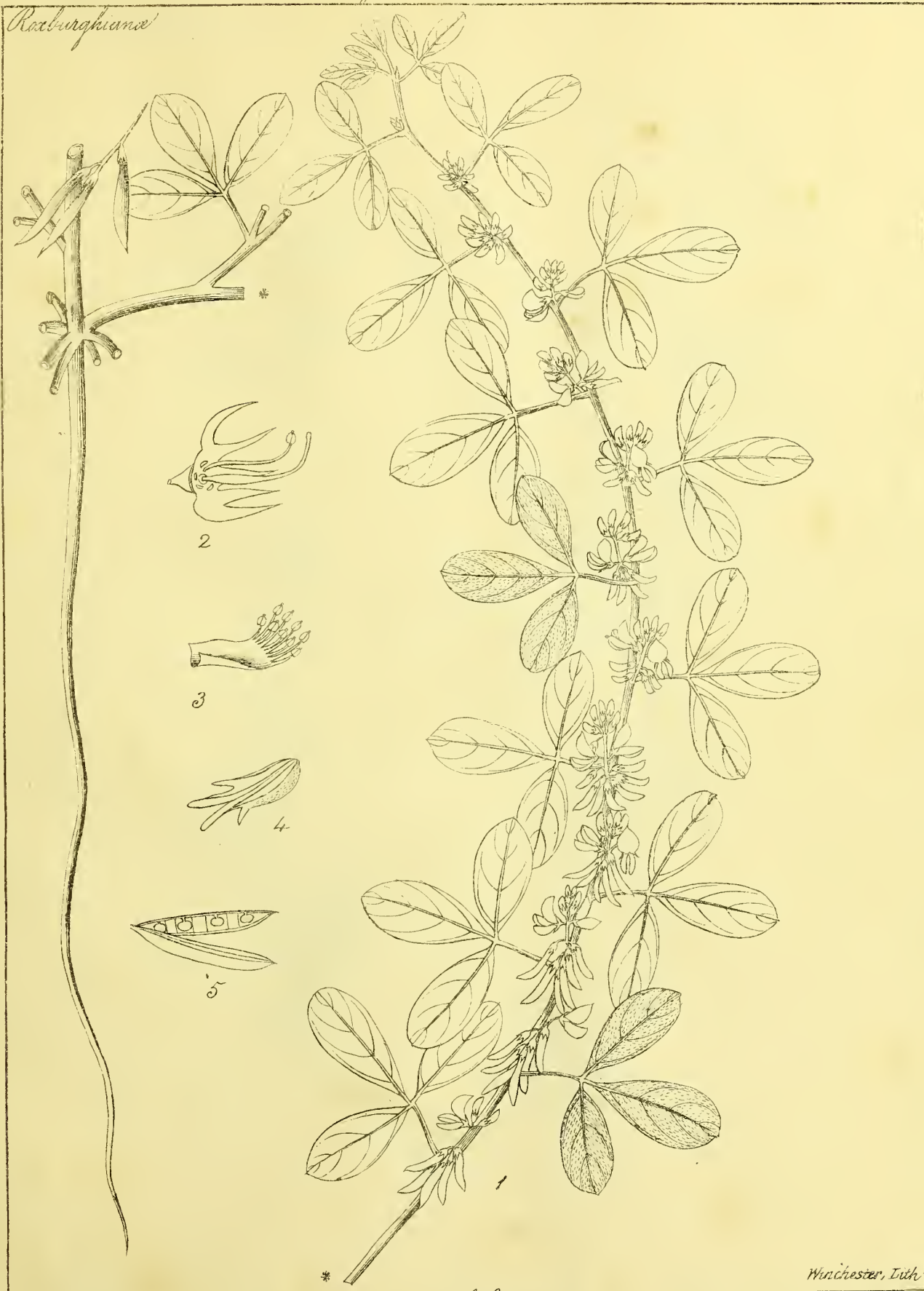


*Indigofera linifolia* (Rett.)

Winchester, Lith.

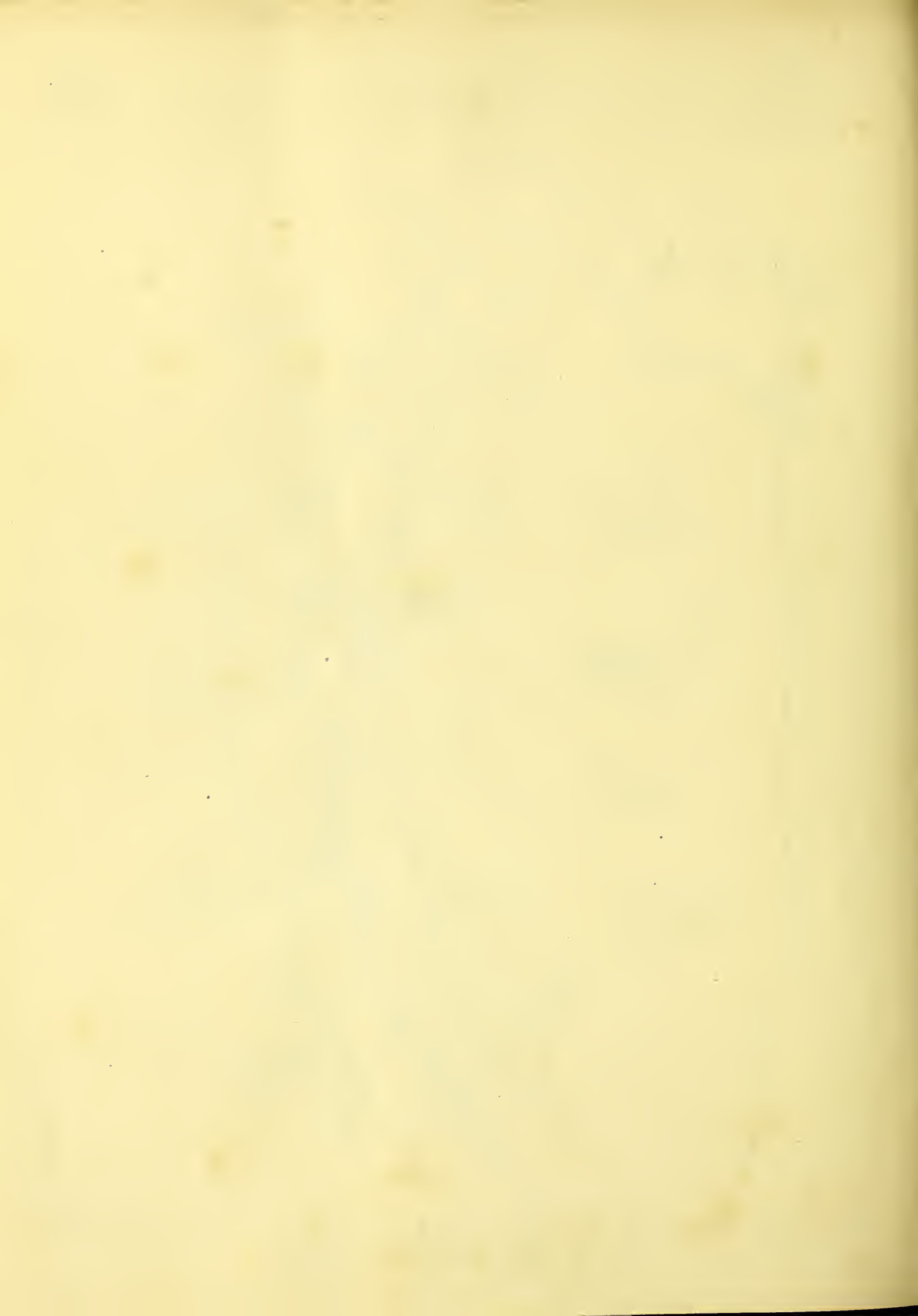


*Roxburghiana*



*Indigofera trifoliata* (Linn.)  
*Indigofera prostrata* (Roxb.)





*Solea*

*Liguminosa*

315  
636

*Rothburghiana*



*Dampier, I. th.*

*Indigofera tita* (Linn.)

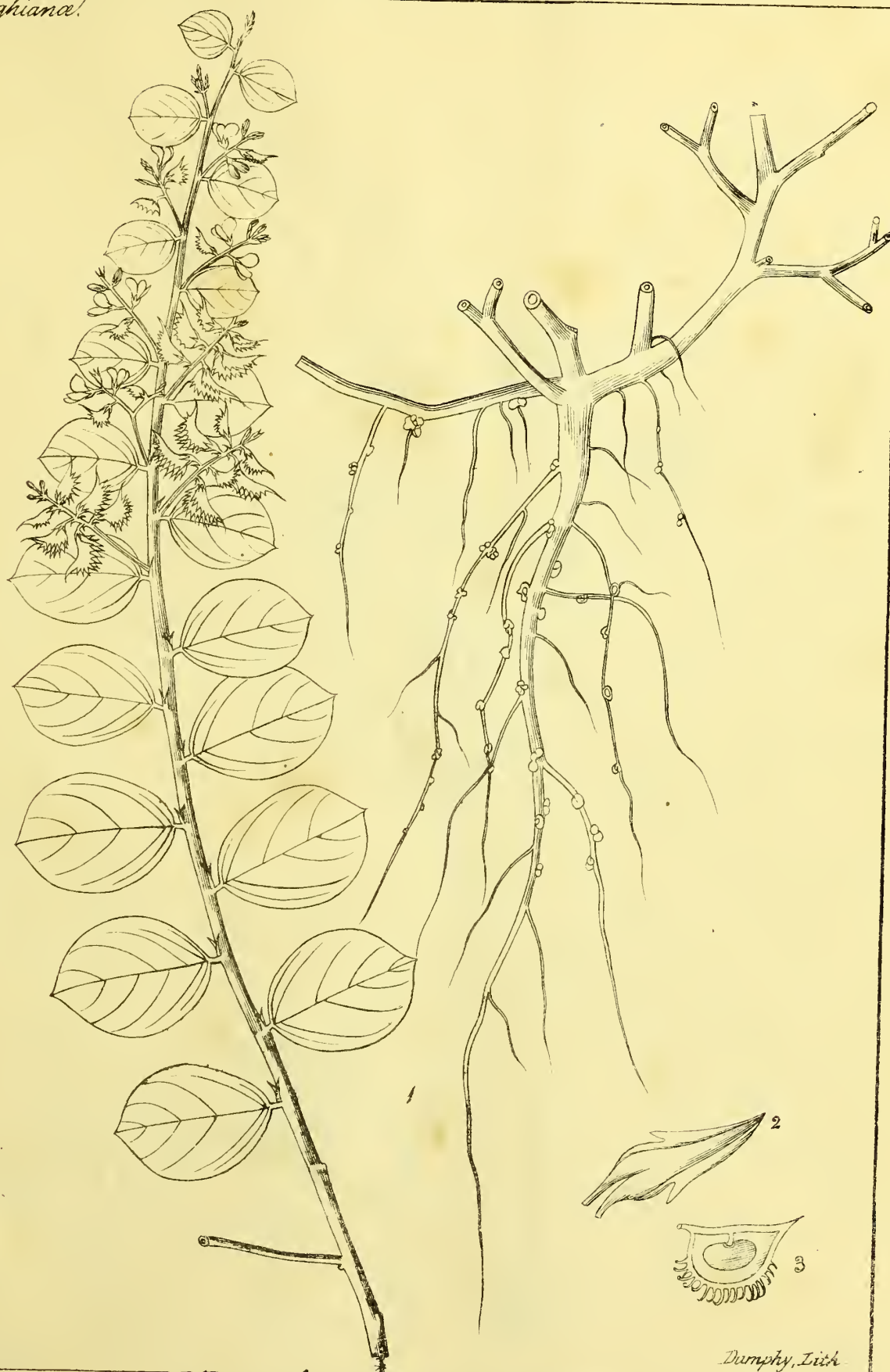


*Loteca!*

*Leguminosa!*

316  
617

*Reaumuriana!*



*Indigofera echinata (Willd.)*

Dumphy, Lith.





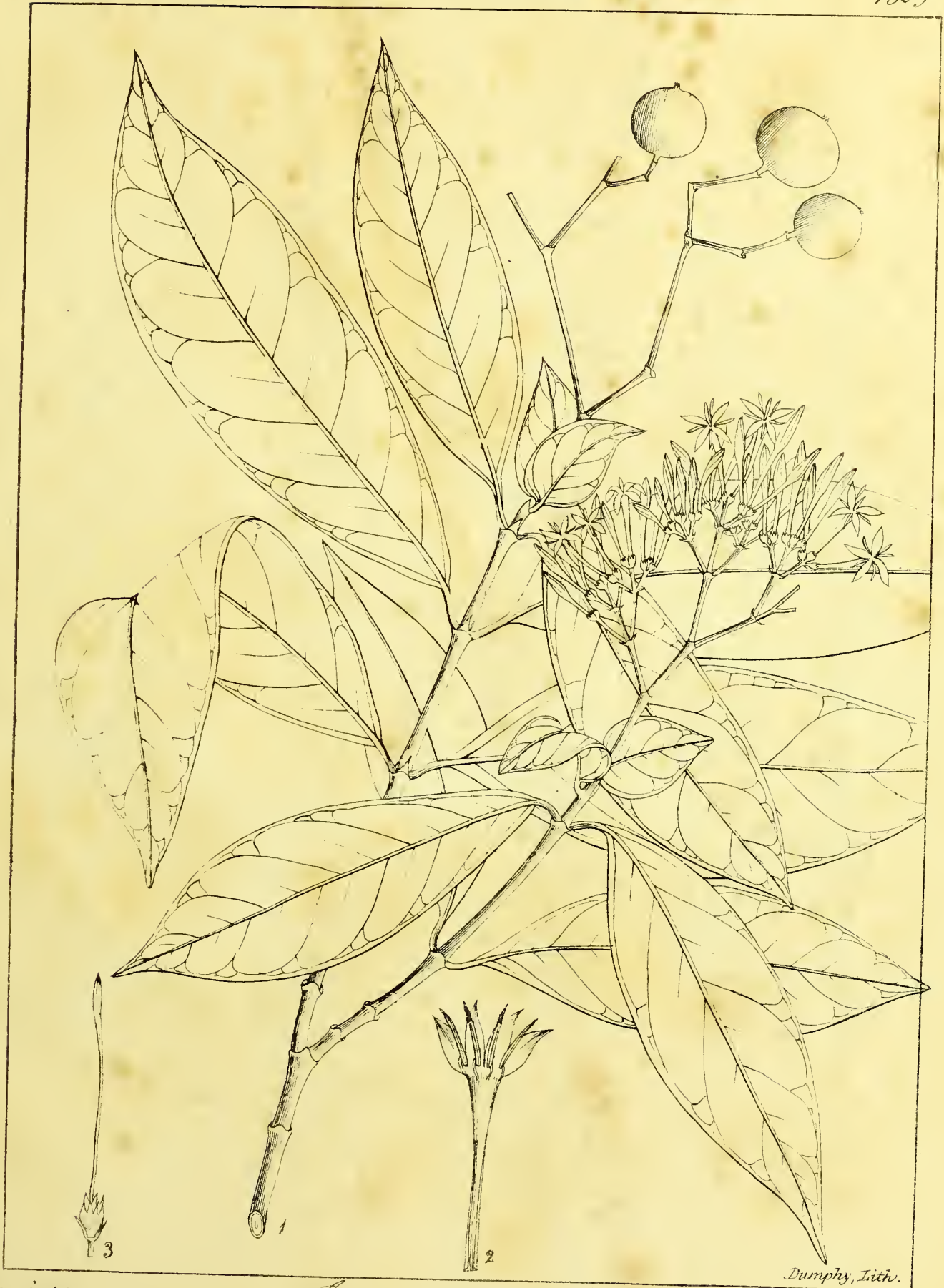


Rungtshah, del.

Dumphy, Lith.

*Stylocorvne monosperma* (W & A)





Dumphy, Lith.

ஆதாம்பு }  
Oothapoo } Tam.

*Ixora nigricans* (Br.)





# I N D E X

TO THE

## PLANTS CONTAINED IN VOLUME I.

ALPHABETICALLY ARRANGED.

|                               |                |     |                                 |                 |     |
|-------------------------------|----------------|-----|---------------------------------|-----------------|-----|
| Abelmoschus ficulneus,        | Malvaceae      | 154 | <i>Carpopogon monospermum</i> , | Leguminosae     | 35  |
| Abrus fruticosus,             | Leguminosae    | 33  | <i>Carua</i> ,                  | Laurinae        | 130 |
| Abutilon crispum,             | Malvaceae      | 68  | Cassia alata,                   | Leguminosae     | 253 |
| indicum,                      | —              | 12  | bacillus,                       | —               | 252 |
| Acrocarpus fraxinifolius,     | Leguminosae    | 254 | rhombifolia,                    | —               | 269 |
| Ægle marmelos,                | Aurantiaceae   | 16  | Cedrela toona,                  | Cedrelaceae     | 161 |
| Æschynomeue aspera,           | Leguminosae    | 299 | Celastrus paniculata,           | Celastrineae    | 158 |
| Æschynomeue sesban,           | —              | 32  | Ceriops Candolliana,            | Rhyzophoreae    | 204 |
| Agrimonia eupatorium,         | Rosaceae       | 224 | Cicer arietinum,                | Leguminosae     | 20  |
| <i>Ceylanica</i> , Moon,      | —              | 224 | Cinnamomum albiflorum,          | Laurinae        | 140 |
| Alangium decapetalum,         | Alangieae      | 194 | aromaticum,                     | —               | 136 |
| Alchemilla vulgaris,          | Rosaceae       | 229 | culitlawan,                     | —               | 137 |
| <i>Ceylanica</i> , Moon,      | —              | 229 | dubium,                         | —               | 135 |
| Alysicarpus Belgaumensis,     | Leguminosae    | 92  | dulce,                          | —               | 138 |
| longifolius,                  | —              | 251 | iners,                          | —               | 122 |
| pubescens,                    | —              | 250 | iners, bis                      | —               | 122 |
| Ameletia indica,              | Salicariae     | 257 | iners ?                         | —               | 130 |
| rotundifolia,                 | —              | 258 | multiflorum, $\beta$            | —               | 126 |
| tenuis,                       | —              | 257 | multiflorum,                    | —               | 131 |
| <i>Ammannia pentandra</i> ,   | Salicariae     | 260 | nitidum,                        | —               | 124 |
| <i>rotundifolia</i> ,         | —              | 258 | obtusifolium,                   | —               | 139 |
| <i>Amyris simplicifolia</i> , | Aurantiaceae   | 72  | ovalifolium,                    | —               | 125 |
| Atylosia Lawii,               | Leguminosae    | 93  | perpetuo florens                | —               | 141 |
| Azadirachta indica,           | Meliaceae      | 17  | <i>perpetuo florens</i> ?       | —               | 134 |
| Balanites Egyptiaca,          | Olacineae      | 274 | <i>perpetuo florens</i> ?       | —               | 127 |
| Barringtonia racemosa,        | Myrtaceae      | 152 | recurvatum,                     | —               | 133 |
| Bauhinia scandens,            | Leguminosae    | 264 | villosum,                       | —               | 127 |
| semitrifida,                  | —              | 263 | zeylanicum,                     | —               | 134 |
| Berchemia parviflora,         | Rhamneae       | 19  | zeylanicum,                     | —               | 123 |
| Bergera Koinigii,             | Aurantiaceae   | 13  | <i>zeylanicum</i> ? $\gamma$    | —               | 129 |
| Brachypterum scandens,        | Leguminosae    | 275 | <i>zeylanicum</i> , $\gamma$    | —               | 128 |
| Bruguiera Rheedii,            | Rhyzophoreae   | 239 | <i>Chinna or Bengal gram</i> ,  | Leguminosae     | 20  |
| eripetala,                    | —              | 239 | <i>Cissus adnata</i> ,          | Ampelideae      | 144 |
| <i>gymnorrhiza</i> ,          | —              | 239 | <i>angustifolia</i> ,           | —               | 176 |
| Buchanania angustifolia,      | Terebinthaceae | 101 | auriculata,                     | —               | 145 |
| intermedia,                   | —              | 81  | <i>lanceolata</i> ,             | —               | 177 |
| lanceolata,                   | —              | 237 | Clausena Willdenowii,           | Aurantiaceae    | 14  |
| Bupleurum plantaginifolium,   | Umbelliferae   | 241 | Cleome aspera,                  | Capparideae     | 287 |
| Butea parviflora,             | Leguminosae    | 210 | viscosa,                        | —               | 22  |
| Cæsalpinia paniculata,        | —              | 36  | Cleyera gymnanthera,            | Ternstræmiaceae | 47  |
| sepiaria,                     | —              | 37  | Coffea arabica,                 | Rubiaceae       | 53  |
| Calophyllum Burmanni, $\beta$ | Guttiferae     | 107 | Combretum Wightianum,           | Combretaceae    | 227 |
| Burmanni,                     | —              | 108 | Corchorus capsularis,           | Tiliaceae       | 311 |
| decipiens,                    | —              | 106 | <i>Coronilla sesban</i> ,       | Leguminosae     | 32  |
| inophyllum,                   | —              | 77  | <i>Country mallow leaf</i> ,    | Malvaceae       | 12  |
| Moonnii,                      | —              | 111 | <i>Crataeva marmelos</i> ,      | Aurantiaceae    | 16  |
| tomentosum,                   | —              | 110 | <i>religiosa</i> Ainslie,       | —               | 16  |
| Capparis grandis,             | Capparideae    | 21  | Crotalaria bifaria,             | Leguminosae     | 30  |
| horrida,                      | —              | 173 | bracteata,                      | —               | 273 |
| Cardiospermum canescens,      | Sapindaceae    | 74  | evolvuloides,                   | —               | 31  |
| Careya sphaerica,             | Myrtaceae      | 147 | obtecta,                        | —               | 203 |

|                                    |                |          |                                  |                    |
|------------------------------------|----------------|----------|----------------------------------|--------------------|
| <i>speciosa</i> ,                  | Leguminosae    | 29       | <i>microcos</i> ,                | 84                 |
| <i>verrucosa</i> ,                 | _____          | 200      | <i>oppositifolia</i> ,           | 62                 |
| <i>Cyamopsis psoraloides</i> ,     | _____          | 248      | <i>rotundifolia</i> ,            | 45                 |
| <i>Dalbergia frondosa</i> ,        | _____          | 266      | <i>scabrophylla</i> ,            | 89                 |
| <i>marginata</i> ,                 | _____          | 87       | <i>sclerophylla</i> ,            | 89                 |
| <i>reniformis</i> ,                | _____          | 261      | <i>ulmifolia</i> ,               | 84                 |
| <i>rimosa</i> ,                    | _____          | 262      | <i>umbellata</i> ,               | 83                 |
| <i>robusta</i> ,                   | _____          | 244      | <i>Griffithia fragrans</i> ,     | Rubiaceae 310      |
| <i>scandens</i> ,                  | _____          | 275      | <i>Guarea paniculata</i> ,       | Meliaceae 146      |
| <i>stipulata</i> ,                 | _____          | 243      | <i>Guatteria longifolia</i> ,    | Anonaceae 1        |
| <i>tamarindifolia</i> ,            | _____          | 242      | <i>Guettarda speciosa</i> ,      | Rubiaceae 40       |
| <i>Dalhousiea bracteata</i> ,      | _____          | 265      | <i>Hedera trifoliata</i> ,       | Araliaceae 307     |
| <i>Decaschistia crotonifolia</i> , | Malvaceae      | 42       | <i>Hedyotis racemosa</i> ,       | Rubiaceae 312      |
| <i>trilobata</i> ,                 | _____          | 88       | <i>Hedysarum alopecuroides</i> , | Leguminosae 290    |
| <i>Desmodium congestum</i> ,       | Leguminosae    | 209      | <i>auriculatum</i> ,             | _____ 298          |
| <i>collinum</i> ,                  | _____          | 272      | <i>bracteatum</i> ,              | _____ 268          |
| <i>diffusum</i> ,                  | _____          | 298      | <i>collinum</i> ,                | _____ 272          |
| <i>gangeticum</i> ,                | _____          | 271      | <i>gangeticum</i> ,              | _____ 271          |
| <i>gyrans</i> ,                    | _____          | 294      | <i>gyrans</i> ,                  | _____ 294          |
| <i>latifolium</i> ,                | _____          | 270      | <i>hamosa</i> ,                  | _____ 284          |
| <i>quinqueangulatum</i> ,          | _____          | 293      | <i>lagenarium</i> ,              | _____ 299          |
| <i>triflorum, β</i>                | _____          | 292      | <i>lagopoides</i> ,              | _____ 289          |
| <i>triflorum</i> ,                 | _____          | 298      | <i>latifolium</i> ,              | _____ 270          |
| <i>Diospyros ebenum</i> ,          | Ebenaceae      | 181      | <i>quinqueangulatum</i> ,        | _____ 293          |
| <i>ramiflora</i> ,                 | _____          | 189      | <i>reptans</i> ,                 | _____ 291          |
| <i>tomentosa mas</i> ,             | _____          | 182      | <i>senmoides</i> ,               | _____ 297          |
| <i>tomentosa fem</i> ,             | _____          | 183      | <i>strobiliferum</i> ,           | _____ 267          |
| <i>Elæocarpus aristatus</i> ,      | Elæocarpeae    | 63       | <i>triflorum</i> ,               | _____ 292          |
| <i>bilocularis</i> ,               | _____          | 62       | <i>vespertilionis</i> ,          | _____ 285          |
| <i>Ganitrus</i> ,                  | _____          | 66       | <i>viscidum</i> ,                | _____ 286          |
| <i>lanceæfolius</i> ,              | _____          | 65       | <i>Helicteres isora</i> ,        | Bombaceae 180      |
| <i>oblongus</i> ,                  | _____          | 46       | <i>Hibiscus hirtus</i> ,         | Malvaceae 41       |
| <i>robustus</i> ,                  | _____          | 64       | <i>populneus</i> ,               | _____ 8            |
| <i>rugosus</i> ,                   | _____          | 61       | <i>lampas</i> ,                  | _____ 5            |
| <i>Elatine (Bergia) æstivosa</i> , | Elatineae      | 222      | <i>lunarifolius</i> ,            | _____ 6            |
| <i>Eriobotrya japonica</i> ,       | Rosaceae       | 226      | <i>pruriens</i> ,                | _____ 6            |
| <i>Erythrina indica</i> ,          | Leguminosae    | 58       | <i>Surattensis</i> ,             | _____ 197          |
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ACCORDING TO THEIR NATURAL ORDER.

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|----------------|---------------------|------|-----------------------|
| 2 line 35 for  | alebriagal          | read | algebraical.          |
| 2 last line "  | conguns             | "    | congeners.            |
| 11 line 37 "   | Jussien             | "    | Jussieu.              |
| 11 " 46 "      | PATONIA             | "    | PATTONIA.             |
| 37 " 49 "      | Roxburgh's          | "    | Roxburgh.             |
| 66 " 9 2d col. | Leschenautiana      | "    | Leschenaulianum.      |
| 71 " 24 for    | <i>insignis</i>     | "    | <i>insigne</i> .      |
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| 163        | ZYOPHYLLÆ  | " | ZYGOPHYLLÆ.          |
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| 184 " 45 " | <i>canefolius</i>  | " | <i>cuneifolium</i> . |
| 203        | small type 1st column, line 10, for <i>ali</i> read <i>ab</i> .            |   |                      |
|            | 2d column, line 5, for <i>Numbady</i> read <i>Rambady</i> .                |   |                      |
| 206        | small type column 1, last line, add Icon. Pl. Ind. Or. t. 257.             |   |                      |
| —          | small type 2d column, 1st line, for <i>shrubs</i> read <i>stems</i> .      |   |                      |
| 215        | small type 1st column, line 14, for <i>capituli</i> read <i>capitula</i> . |   |                      |
| 218        | Explanation of Plate 94, for <i>brunones</i> read <i>Brunonis</i> .        |   |                      |







